Midland's Proposed Community College

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Current Problems in Higher Education

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Chapter I

HISTORY AND STATISTICAL SURVEY

History[1]

"A part of a tract of 6,000 acres of land at the junction of the Tittabawassee and Chippewa rivers bought from the Indians in 1838 is called Midland, "the city of modern explorers." It received its name Midland by reason of the fact that it lies approximately in the center of the lower peninsula of Michigan. From a small community of 65 souls, in 1850, situated in a great woods of pine, cedar and oak, where 400 Indians, and often more, encamped nearby and visited with the few white inhabitants, Midland became a thriving lumber camp and the home of salt manufacturing. Later it picked itself up out of the ruins of a "ghost" lumber camp because people lived here who had ambition and the will to succeed, and because a young man, a pioneer in every sense of the word, came to Midland and by hard work and diligent research showed the people that a community can succeed by using what Mother Nature has provided.

Midland's development into a thriving, happy community, a development of slow and sure growth instead of an "overnight" booming growth, is shown in its interesting history (14). From the time traders reached Detroit the Indians were pushed farther and farther up the rivers until they reached the Tittabawassee and Chippewa rivers. Finally in 1848 these Indians were assigned to the Isabella County Reservation at Mt. Pleasant. However, there were white residents before this date. As early as 1836 one white man settled here and soon others followed and the streets in Midland were named for these early settlers. At the time when Main Street was just a pile of sand and stumps a mission building was erected and many Indians were converted as a result. In 1850 the first schoolhouse was built, a log building of the pioneer type. In 1856, $6,000 of county bonds were voted for a courthouse. The courthouse was used until 1926 when a particularly striking new courthouse was erected at a cost of $150,000 and the old one was sold for $245. The new courthouse portrays Midland's history in a sense because its mural paintings done by a well-known Detroit artist depict scenes such as the pine forest, Indians on a hunt, woodsmen, etc.

For a long time steamboats made three trips weekly down the Tittabawassee to Saginaw for produce, when finally the Pere Marquette railroad was built in 1870. There was indeed a great celebration on the part of Midland residents because the steamboats were difficult to manage and a railroad was welcomed. When Midland became a lumber community many fine lands were ruined because the lumbermen did not live by a code of conservation. In 1884, 30 million feet of fine white pine logs were collected at Averill, north of Midland. It was the greatest collection of logs at any one place in the world.

Because of its salt wells Midland thrived for a time as a health resort.

1 Growing Schools for a Growing Midland, Board of Education, 1947-48

This community is now a prospering city of 15,000 people living where all the wealth above ground was destroyed by the whir of ax and saw. The community, again wealthy from the products of the soil, has changed to the hustle and noise of a small industrial city ever growing larger. It is a place where natives of England, of France, of Syria, or any country may meet or may pass one another at the city airport on their way to discuss business with the Dow Chemical Company. Midland is now only a few hours from any place in the world, and its residents of gardeners, of proud home builders, sportsmen, artists, and intellectuals well versed in many fields, provide a cosmopolitan and cultural atmosphere comparable to any intellectual center in the world. Midland folks are informal, friendly and very unpretentious."

CHAPTER II

Population[1]

"From the time of the first lumber until 1890, the population growth of the City of Midland and the county was quite rapid and especially so from 1870 to 1890. There was no appreciable change in the city population from 1890 to 1910; however, the population in the county continued to grow during this period. In 1900 there were about 2,600 people in the city and about 14,000 in the county. From 1910 the growth of the city has been quite rapid and equal to or greater than that of the county until the last two or three years. At the present time the indications are that the population of the county is increasing more rapidly than that of the city. It also should be noted that much of the growth outside the city is within a radius of five or six miles of Midland. If a sufficient number of homes are provided in Midland to house the people now employed within the city, then these estimates certainly will prove very conservative. At the present time, 60% of those people employed at the Dow Chemical Company live outside the city limits. When homes are provided for those employed in industry it becomes necessary to provide other services for these people, thus a further increase of the population growth is experienced.

The population of Saginaw, Bay City and Midland for the years 1890-1948 is presented in Table I, below, showing the growth trend in the Saginaw valley.

TABLE I

Population of Saginaw, Bay City and Midland

Year	Saginaw	% Change	Bay City	% Change	Midland	% Change
1890	46,322	...	27,839	...	2,300	...
1900	42,345	-8.6	27,628	-0.7	2,400	4.3
1910	50,510	19.3	45,166	63.4	2,500	4.3
1920	61,903	22.5	47,554	5.3	5,900	13.6
1930	80,915	30.7	47,355	-0.4	8,300	40.6
1940	82,794	2.2	47,956	1.3	10,300	24.1
1950	92,302	11.7	52,37[illegible]	9.4	14,20[illegible]	37.9

Midland has experienced a larger percentage increase than either Saginaw or Bay City; and the more highly industrialized cities, Saginaw and Midland, have shown the fastest growth since 1910.

Home Construction

Since 1935 there have been 90 houses per year built in Midland, and more than 60% of the people own their own homes. Should apartment dwellings be constructed, then population growth figures with regard to schoolroom needs would be altered. This type of program would provide living quarters for more single and young married people and encourage their residence in Midland."

1 Growing Schools for a Growing Midland - Board of Education - 1947-48

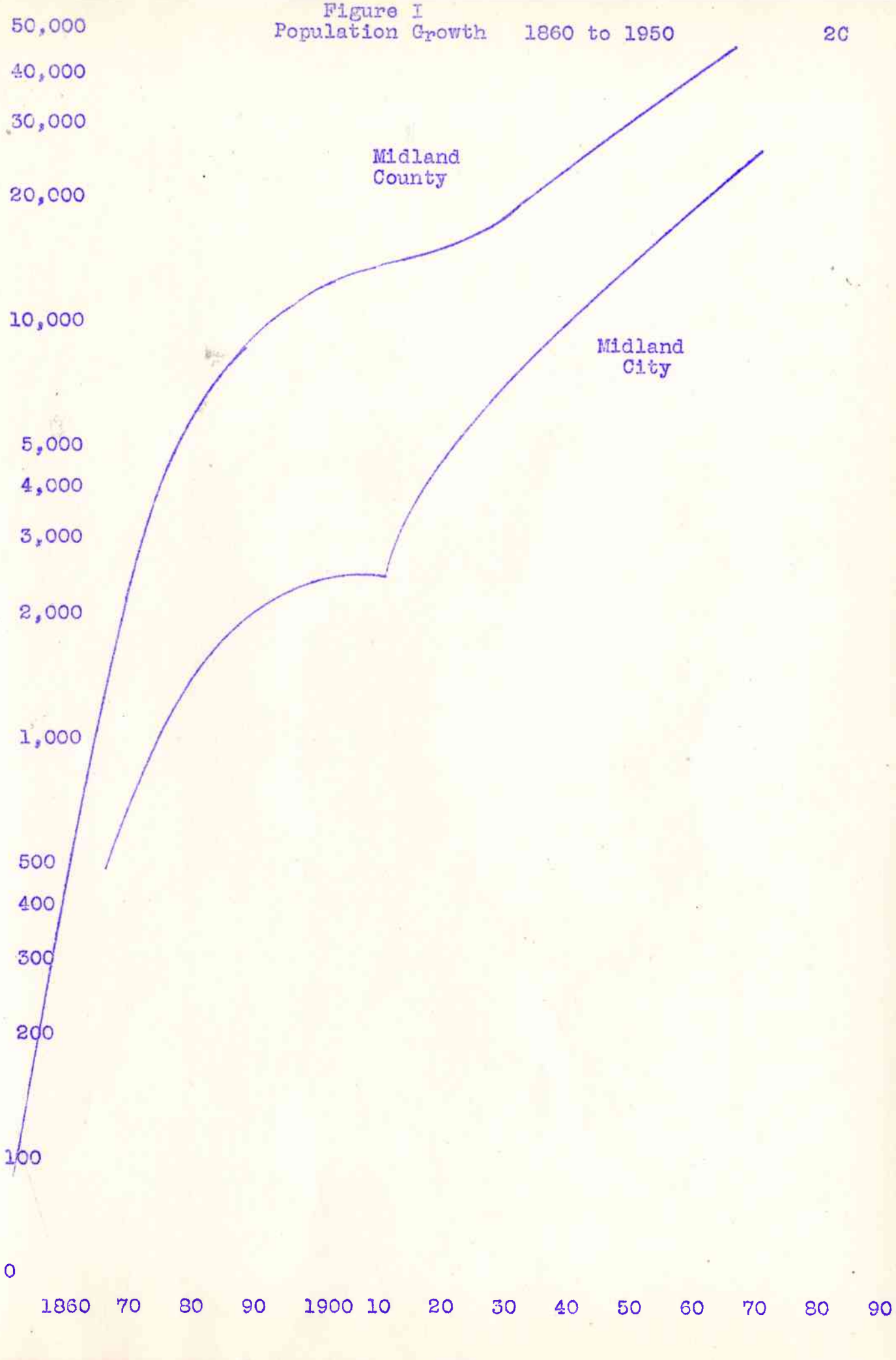
TABLE II

Houses in Midland

Year	Number of new houses	Total dwelling units in City of Midland
1928	..	1895
1929	58	1953
1930	50	2003
1931	24	2027
1932	30	2057
1933	21	2088
1934	86	2174
1935	126	2300
1936	132	2432
1937	138	2570
1938	98	2668
1939	103	2771
1940	80	2851
1941	129	2980
1942	74	3054
1943	106	3160
1944	20	3180
1945	17	3197
1946	162	3359
1947	120	3479
1948	88	3567
1949	109	3676
1950	128*	3804

*Total for the first six months.

Figure I
Population Growth 1860 to 1950



The growth of population from 1860 to the present time for both Midland City and Midland County are shown in Figure I. In each case the curve is projected to 1970. Both the county and the city have shown a rather continuous, rapid growth since 1910. The projected figures may contain errors. Due to the nature of the industries, which are basic, it probably is safe to say that the growth will continue at about the present rate for 10 or 20 years.

There are several factors that might influence the growth of our industries and likewise the community such as: (a) The continuance of the United States as the arsenal of Democracy or the police power of the United Nations. Either would tend to produce rapid growth of the chemical industry, (b) Since Midland is not a lake port, the higher cost of transportation of raw materials and finished products favors the establishment of branch plants on lake or ocean ports; (c) The availability of cold water in large quantities is an important factor to consider in chemical industrial development. Here again lake ports have an added advantage; (d) In the availability of raw materials, Midland is favored as are all Central Michigan communities. The lake ports on either side of Michigan have these advantages also.

There has been for several years a tendency for Midlanders to move out into the fringe area where initial costs of property is less and where there is more living space. There is a tendency now because of low cost housing within the city for some of the population trends to be reversed. The movement of population from the city to the county or the opposite is not of great concern here since we are to consider a community college. As the name suggests the college would serve the Midland community area.

CHAPTER III

Industry and Employment in the Midland Community

Industry [1]

"The first major industry in Midland as so often told was lumbering. After the virgin forests in this community were cut down in a ruthless fashion, the lumbermen moved on to the north. Those residents remaining turned to the cutting of firewood which was sold for evaporating brine. The chief income for the people was recovering the salt from the brine and selling it for 46 cents a barrel.

It must be pointed out that in 1888 Midland was the largest single producer of bromine in the country by a process developed in 1825.

In 1890 the late Dr. Herbert H. Dow came to Midland and although the present Dow Chemical Company was not organized until the year 1897, the chemical processes were being developed which were later to become the foundation of the chemical company which was destined to become world famous. As the Dow Chemical Company grew and new products were developed, many of which were by-products from the bromine extraction process, the community grew and became prosperous. Today the Dow Chemical Company is the major employer in Midland and the Midland branch of this company alone manufactures some 600 products.

The agriculture in Midland County is about average. There are some very good farming areas but much of the land is submarginal, covered with poor second growth timber.

Dairying has provided a good source of revenue for many in the community.

In 1908 there was considerable activity started in the prospecting for coal. However, the first shaft was not sunk until 1922. Coal mining in Midland County was not profitable since the coal was of poor quality and this mine was closed down after 15 years of operation.

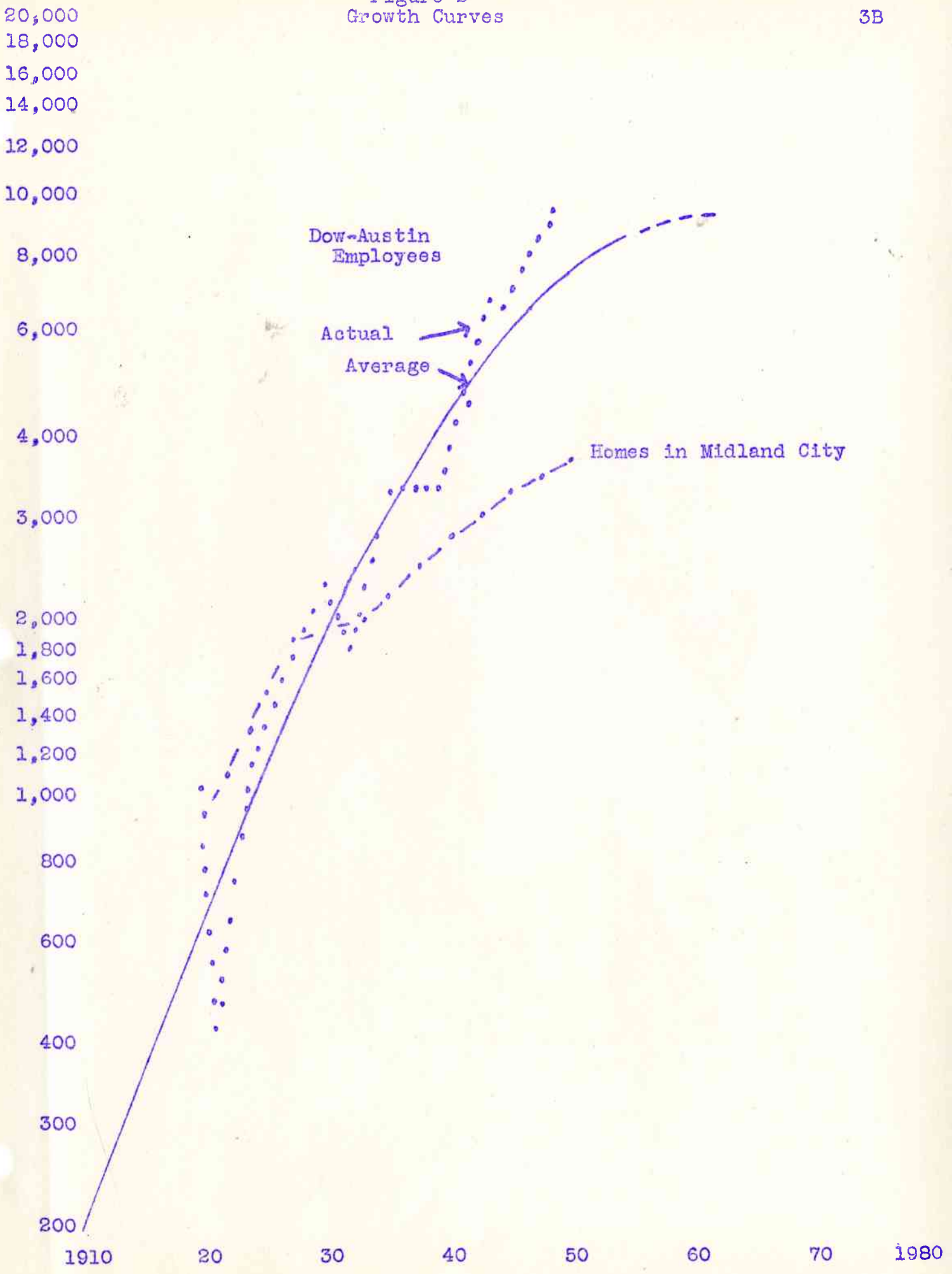
Among the small local industries were the chickory mills. The last mill of this type was taken down in the early 1930's.

The Associated Platics Company (Roland P. Place Company) was organized in 1919 and its major work was that of wheel truing. This firm has now changed hands and is a large molder of plastics, much of which is manufactured locally by the Dow Chemical Company. Their payroll at the present time numbers approximately 100 employees.

Oil was first discovered in Midland County in the late 1920's. It has been a good source of revenue for the community and much development is still going on within the county. The Pure Oil Company Refinery, located on the outskirts of Midland, employs a fair number of people in the community.

1 Growing Schools for a Growing Midland, Board of Education 1947-48

Figure 2
Growth Curves



The Dow Corning Corporation, one of the newer organizations to begin operations in this area, manufactures a new line of products based on the silicones. It is located outside the city limits to the east of Midland, and although this company has been in operation only five years it employs over 300 people and has a bright future.

While the foregoing shows much growth in the community in the past 60 years, its continued prosperity will hinge upon the natural resources and economic trends.

The Midland-Saginaw water project, which will bring water to this community from Lake Huron, means that a cold, low hardness water will be available for industrial use as well as for domestic use; and it may influence other industries to locate here.

The lake shipping to Bay City affords a considerable saving in freight costs to the major industries in this area. This permits water shipping from the Gulf of Mexico, the eastern seaboard, and delivery of coal and other supplies to within 18 miles of Midland. Many finished products are also sent out over these same routes."

Employment

The employment trend of the Dow Chemical Company (3) was studied from the year 1920 to 1947, and the curve shown in Figure 2 is projected to 1970. Since this company is the major employer in this community, it was felt that by studying the growth curves an estimate of future growth of the community might be predicted, providing a major change in the economic conditions do not alter the picture. The curves show 640 employees in 1920 and 9,000 at the present time. It is estimated from this curve that the employment will be in the neighborhood of 12,000 in 1970."

Figure 1 probably is a conservative graph. It represents only the employment information for the largest employer, the Dow Chemical and its building contractors, Austin Company. In addition to these we have the following small employers:

Dow Corning Company	473 employees
Pure Oil Refinery Company	37 employees
Associated Plastics Company	100 employees
City of Midland	100 employees
Board of Education	228 employees

Geography of the Employment Area

In Map I is shown the employment area served by Dow Chemical Company. Within the city and the adjacent area for a radius of six to ten miles the great majority of the wage earners work in Midland. Many persons living in or near Saginaw and Bay City work in Midland. Here the distance commuted is 15 to 20 miles. Regular busses carry workers to and from Midland on eight hour shifts from Gladwin, Mt. Pleasant and St. Louis-Alma areas. The distances here are from 28 to 40 miles.

Gladwin
Mid-
Bay
City
Mt
Pleasant
Saginaw
St.
Louis
Alma

CHAPTER IV

PRESENT EDUCATIONAL PROGRAM

History[1]

"The first school in Midland was erected in 1850, with 16 children attending. The teacher was a half-breed Indian. In the county the Bluff school was built in 1856 and it is interesting to note that the teacher was paid $1.00 a week with the "privilege of boarding around." The next school organized was in the community now known as Laporte, in 1857. From this modest beginning the school system has grown until now some of the most modern units are available and more than 8,000 pupils are attending school within the county.

There is little information available on the history of Midland's schools from the 1850's until the early 1920's. It is presumed that much of the early history and records were lost in the fire that destroyed the main building in 1907. The present school site known as the Junior High School was purchased in 1871 for $1,000. The only building remaining in the city from the early schools is the present workshop of the Midland Little Theatre Guild, formerly the Post Street or third ward school. This property was purchased in 1887 and a two-room school maintained until the middle 1930's. When the building was condemned for school purposes the limited grounds and population in the area prompted the Board of Education to sell this property in 1945.

It is evident that Midland has always striven for the best in education. The high school has been on the accredited list of the University of Michigan since 1897, and it was accepted by the North Central Association of Colleges and Universities for the same period.

In 1926 there were 1420 pupils in the school system--890 in the K-6 program, 300 in grades 7-9, and 230 in the senior high school. It was also interesting to learn that in the high school, 140 were non-resident students. They were from Midland, Bay and Saginaw counties and paid a yearly tuition of $75.00.

Also operating in the year 1926 was the Midland County Normal School. It was part of the regular school system and was considered somewhat of a junior college for young men and women who wished to take up teaching as their profession. After completing this course for one year it was possible to teach in the rural schools. If the student wished to go further, he could attend one of the normal colleges and complete the two-year term in one year. At this time the requirement for teachers in the grade schools of Midland was a two-year certificate from a normal college.

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Parochial Schools

St. Brigids School, conducted by the Catholic Church, has an enrollment of 358 at this time. A four-room addition to the building was completed in 1947. The parish has also purchased a site on East Ashman Street for the erection of a school. It is understood that work above the 8th grade will not be offered at this time.

The Lutheran school has been in operation about four years. The present enrollment of 82 is housed in a two-room unit. The Luteran Church has purchased two city blocks south of the Senior High School between Carpenter and Reardon streets for a new school and church. It is not likely, however, that a program above the 8th grade will be conducted.

Cultural Levels and Interests

A very high percentage of the people in Midland have college training. They have attended all types of schools in all parts of the nation, and many have studied in foreign countries. In addition to the scientific and business subjects many are well trained in music, art and literature. Various educational programs are sponsored by the American Association of University Women and the People's University. The Dow Chemical Company music program and the Midland Little Theatre Guild provide opportunities for people to participate in music and stage productions. The music program is financed entirely by the company and provides fine musical organizations of men's and women's choruses and a civic orchestra. These groups participate in a number of concerts during the year assisted by leading national artists of stage and radio. A collection is taken at each program and the money is used to finance musical projects in the community. The proceeds are turned over to the Midland Music Foundation which sponsors an annual music contest for young people. The winners are awarded scholarships to the National Music Camp at Interlochen, Michigan. The many women's clubs, lodges, and service clubs offer opportunities for individuals interested in working for the betterment of the community.

There are many churches in Midland representing a large number of religious denominations. Several are constructing or have plans for new churches at this time, in addition to the new units completed in the last few years.

The Veterans of Foreign Wars, American Legion and Amvets maintain organizations in Midland, and the V.F.W. is now constructing a modern meeting hall.

There are a number of scientific organizations in the community and many of Midland's citizens hold responsible offices in the national organizations.

There are many other types of organizations actively studying ways and means for making Midland a better place in which to live.

The people of Midland have had more formal education than the average community of this size and as a result are much interested in obtaining the best in the way of education for their children. More than the average number of students from this city attend colleges and universities in many parts of the country."

Present Plant

Referring to Map 2, page 4D, the locations of all schools within the city and the size of school grounds is shown. At the present time elementary schools No. 1 through 6 are operated as K-6 units. School No. 7, Thompson, has been converted to junior high school use and added to the present junior high school or school No. 9.

The elementary schools are all new or nearly new buildings. The oldest sections of any of the buildings probably could be used many years. The schools are well located to serve the present homes. These buildings will be nearly filled in September of 1950.

The south west high school, school No. 9, is a very old building. This building has been appraised by architectural engineers and is considered too old and of such poor construction that it would not be advisable to modernize it. This building is wholly inadequate for a complete junior high school program of four years. The laboratories for homemaking, art, and science are very limited. The shops are too small and not too well equipped. The physical education equipment for both inside and outside use is far from adequate. The library is almost non-existent. This building will house about 500 students.

The north east high school which will be completed in September of 1950 was designed for grades 7-8-9 or 7-8-9-10. It is an excellent building with all the laboratories, shops, library, gymnasium and athletic fields that is needed for a well rounded program. This building should be in the center of that area of the city to the north and east of U.S. 10 within the next ten years. Since the city is bounded on the west by the river and on the south by the Dow Chemical Company and Dow Corning Company, the natural direction for future growth is north and east. At the present time home development has reached this new building. This building will house 600 to 750 students.

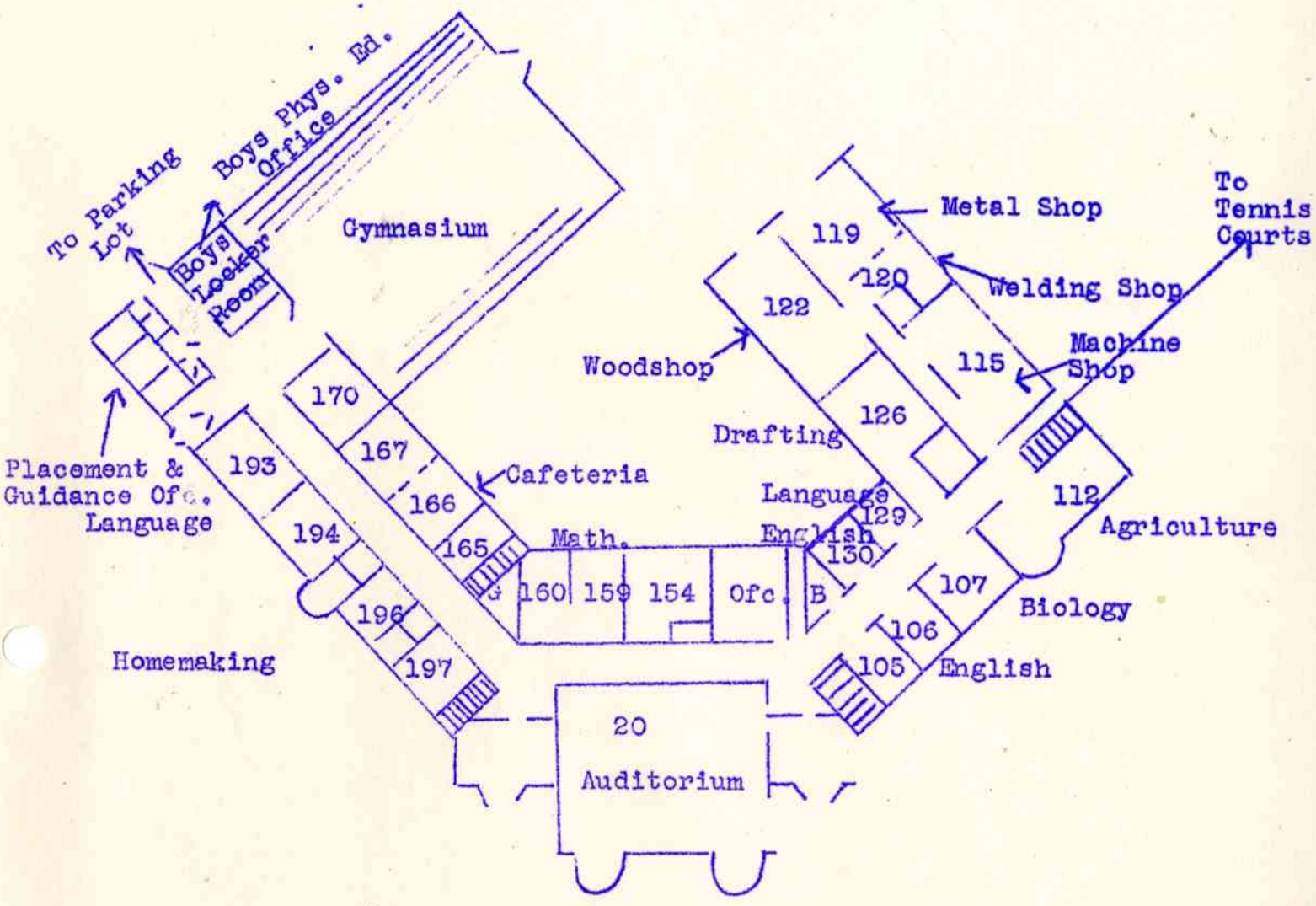
The present senior high school, school No. 10, was built in 1936 to 1940. It is an excellent building with unusual laboratories, shops, a very small cafeteria, and a medium size library. The physical education space both inside and outside is too small. The building is very well equipped. The only objection is the space alloted to each area of instruction.

The present building is a two story one but the foundation would not carry a third story. If the building were enlarged by continuing with the two story construction, then we would be using up much needed play area.

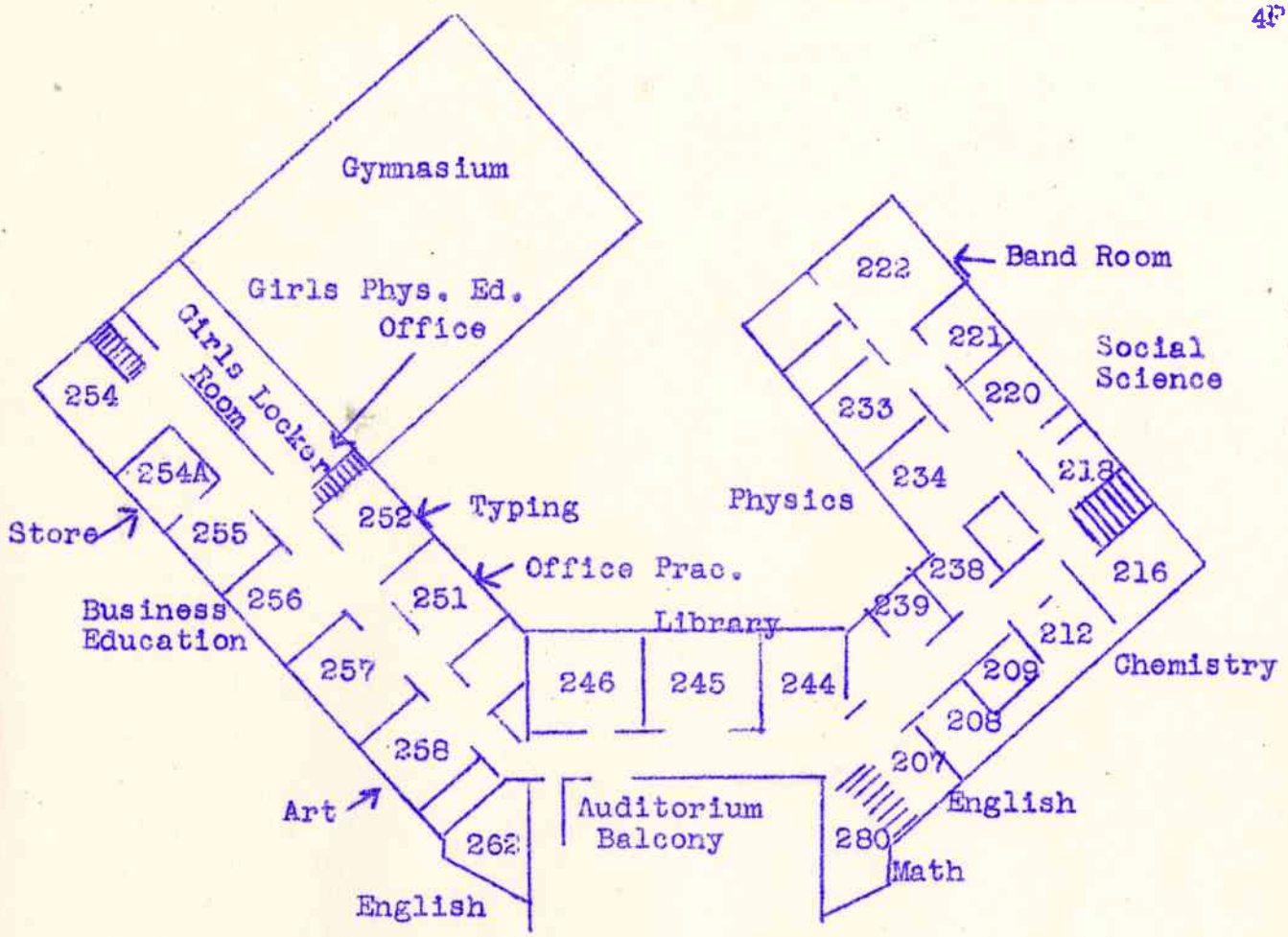
School District beyond city limits, 2 sq. mi.
City Limits
U.S. 10
N
W
E
S
11
29.29 ac.
Sugnet Road
6
5.6 ac.
Eastman Road
St. Andrews
Drive
Plymouth Pkwy.
E. Ashman St.
Helen St.
Ashman St.
Rodd St.
Carpenter St.
1
5.33 ac.
10
21 ac.
3 8.82 ac.
Washington St.
12
60 acres
Eastlawn St.
Main St.
8 lots
8
7
9
5.07 ac.
George St.
State St.
5
469 ac.
Jefferson St.
Second Street
Swede Road
Grove Street
Ellsworth Street
2
1.69 acres
4
0.45 acre
Bay City Road
Senior H.S.
Grades K-6
Grades 7-8
Proposed
1. Carpenter
2. Dow
3. Eastlawn
4. Patterson
5. State
6. Sugnet
7. Thompson
8. 1/8 Line Road (8 lots)
9. Grades 7-8
10. Senior H.S.
11. Proposed 7-9, 10
12. Proposed Community College

Map 3

A. Floor Plan of Midland High School



First Floor



SECOND FLOOR

This building is located in the center of the area to the south and west of U.S. 10. This area is the older part of the city and is nearly all built up. This area probably cannot extend farther to the west because of the river and the lowland beyond which floods frequently.

Since this building is ideally located and has all the necessary facilities for a junior high school of grades 7-8-9-10 it could be converted with a minimum of expense to a fine four year jr. high school.

OBJECTIVES OF EDUCATION IN MIDLAND 10

The Midland Public Schools are looked upon as an ever-changing social community where young people live. Here they are provided opportunities to determine and to work toward goals that are purposeful and significant to them. They are given experiences designed to develop their talents and characteristics which are essential to a wholesome child life. Subject matter is thought of in terms of units living and of learning.

We believe that in every experience the whole child must be considered: the physical, moral, spiritual, emotional, mental, and social being.

In teaching, as in parenthood, we must start where the child is. We must provide challenges for the child according to his abilities. We should not expect all children to reach the same level or quality of achievement; nor should we expect all children to develop at the same rate. The school program must be adjusted to the child's needs, interests, abilities, and rate of growth.

A. Objectives of Human Relationships

In order to develop in children attitudes and proficiencies for wholesome human relationships, it is essential:

1. to provide enjoyable experiences which will create for them sincere friendships and to develop cooperation in work and play with others.
2. to develop the realization that family relationships influence the manner in which an individual conducts himself in a group, since consideration for others is the core of good living.
3. to help cultivate an appreciation and regard for the interrelationships of individuals and groups in the home, the school, the community, the state, the nation, and the world in preparing for the democratic way of life.

"Today we are faced with the preeminent fact that if civilization is to survive, we must cultivate the science of human relationships, the ability of all people of all kinds to live together and work together in the same world, at peace." Franklin D. Roosevelt

B. Objectives of Self-Realization

In order that our children may become all that their talents promise for them, it is essential:

1. to supply experiences that will create a desire to learn and a desire to search for truth.
2. to teach how to read and to write effectively, and to speak the English language clearly.

3. to assist in developing logical thinking ability in order to solve mathematical problems and problems of daily living.
4. to help cultivate ability to observe and to listen.
5. to help them understand the basic facts of health and disease.
6. to assist them in cultivating an appreciation for beauty and an appreciation for our cultural heritage.
7. to guide them in learning how to make worth while use of their leisure time.
8. to assist them in acquiring a scientific attitude toward the living forms and resources in their environment.
9. to foster an understanding of the interrelationship existing between man and his environment.
10. to inspire them to determine worthy goals for living and to guide them toward achievement of these goals.

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"The true test of civilization is not the census, nor the size of the cities, nor the crops but the kind of men the country turns out." -- R. W. Emerson

C. Objectives of Civic Responsibility

In order that our children may learn that liberty with security demands civic responsibility, it is essential:

1. to give immediate and continuing attention to the promotion of peace.
2. to lead them to acquire attitudes of tolerance and desires for understanding others.
3. to offer opportunity and help in developing qualities of good leadership.
4. to help them develop the ability to carry out responsibilities without constant direction.
5. to assist them in learning to operate in groups as a working democracy where students can be taught respect for law, for civic duties, and for honest difference of opinion.
6. to give them practice in the procedures of a democracy so that as citizens they may have courage, unselfishness, and a fine sense of honor.
7. to help them comprehend and practice the basic elements of world understanding, tolerance, and good will.

"I can conceive of no more important endeavor than to make the mind of man a constructive force for peace." James F. Byrnes

D. Objectives of Economic Efficiency

In order that young people may acquire a sense of economic accountability and productive efficiency, it is essential for the school:

1. to provide training for them to become intelligent consumers as well as efficient producers.
2. to help them understand the requirements and opportunities of various occupations.
3. to lead them to feel the dignity of labor in all fields.
4. to help them feel the satisfaction that comes from good workmanship.
5. to provide guidance in choosing an occupation best suited to their individual aptitudes and potentialities; and to those skills in which they can achieve, maintain, and improve efficiency.
6. to provide the opportunity to receive training for college entrance or employment in the home, agriculture, industry, science, or business.
7. to help them gain an appreciation for interdependence of workers and for what their work means to other people.
8. to assist them in planning the economics of their own lives.
9. to show them how to use purposeful thinking and wholesome ideals in deciding what is of first value.
10. to assist them in developing a discriminating sense of values for guiding their own expenditures, in seeking information and in acquiring skill as buyers, and in taking appropriate measures to safe-guard the interests of themselves and also the interests of those dependent upon them.

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"Life is not a having and a getting; but a being and becoming."
--Matthew Arnold

The objectives of Education in Midland Public Schools is summarized in the chart on page 4J. In this chart, there is pictured the decreasing influence of the home as the sole provider of education and the increasing contribution made by the home.

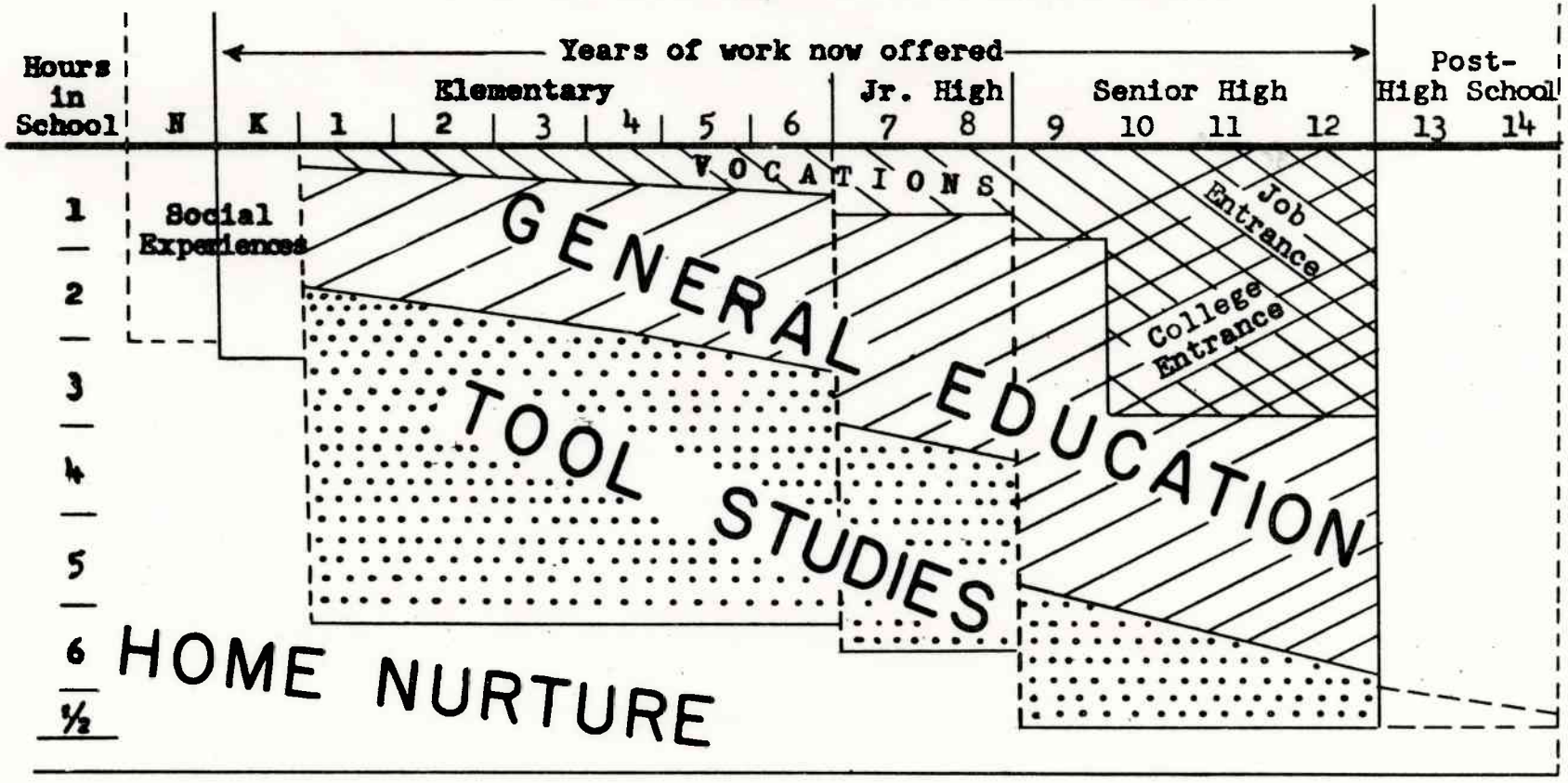
The time devoted to vocations, general education and tool studies shows that as the tool studies and tool skills become developed the amount of time devoted to them decreases and corresponding more time can be devoted to the vocations. The amount of time devoted to general education remains early constant.

The grade level functions are described by appropriate works which indicate the predominate function at that grade level.

FIG. 7

6½ HOURS OF A STUDENT'S DAY

IN MIDLAND PUBLIC SCHOOLS



GRADE LEVEL FUNCTIONS

Orientation — Introduction — Adjustment — Fixation — Exploration — Application — Adaptation

AIMS OF EDUCATION

1. Self-Realization
2. Human Relationships
3. Civic Responsibility
4. Economic Efficiency

Chapter V

The Four-year Intermediate High School

A Present Organization

The Junior High School organization in Midland has been determined by the space available. Originally we had a 6-3-3 organization. Then when the present high school was built and more space was available at this level the ninth grade was moved to the senior high unit and the organization became a 6-2-4 one. I doubt seriously that any other consideration other than the space available determined this reorganization. It probably could not have been justified on any other basis.

In September of 1950 the junior high school program is to be reorganized again. This time the buildings are being provided to house the ninth grade with the seventh and the eight.[1] This is a planned program this time with the building built to fit the program. The planning for this reorganization is a result of a self survey by civic minded Midlanders under the direction of the Board of Education (Growing Schools for a Growing Midland).

Referring to Map No. 2, page 4D, we have two junior high schools No. 9 and No. 11. School No. 9 or the South West Intermediate High School is limited in space, 5.07 acres, and the facilities in the building are not adequate for a good intermediate school program. An attempt is being made to make the program as good as possible but special facilities such as limited shops, laboratories and no cafeteria do not permit the most desirable program. To enlarge the space would be prohibitive as far as costs are concerned. To modernize the building is impractical as judged by several architectural engineers.

The present senior high school whose floor plans are shown on pages 4E and 4F and is shown as School No. 10 on Map 2, Page 4D, is ideally located for an intermediate school. The building contains sufficient shops, laboratories and enough space has been devoted to library and physical education to accomodate a good intermediate school program. Only the cafeteria is too small for a program of 1100 to 1200 students. This building is ideally located in the center of the area between the river and U. S. 10.

The new North East Intermediate High School No. 10 which will be occupied in September, 1950 has been built for the program it is intended to house. At the present the building will house 650 to 700 students. Plans have been made whereby this building can be enlarged to house 1100 to 1200 students. Plenty of outdoor physical education space is available.

This school and the present senior high school contain the desirable features found in a comprehensive study of three year and four year junior high schools by Dr. Leonard V. Koos of the University of Chicago School of Education.

B Dr. Koos' Study

A summary of Dr. Koos studied entitled (2) Integrating High School and College - The Six - Four - Four Plan at Work, Harpers Bros. 1946 is presented here for reference purposes during our study of the K-6-4-4 plan.

Dr. Koos studied seventeen four-year junior high schools and thirty-four three-year schools to determine the findings which he presents.

Enrollment of the schools:

"Earlier studies on the internal make-up of schools revealed that the make-up of the school was very closely related to the enrollment. In this comparison three-year junior high schools were chosen whose enrollment are on a par with the grades 7-8-9 of the four-year junior high schools used in the comparison.

Table 5A

Distribution of four-year and three-year junior high schools according to enrollment in grades 7-8-9.

Enrollment in grades 7-8-9	Four-Year Schools	Three-Year Schools
1200-1299	1	1
1100-1199		1
1000-1099	1	2
900- 999	3	4
800- 899	1	4
700- 799	2	1
600- 699	1	4
500- 599	3	3
400- 499	1	5
300- 399	4	9
Total	17	34
Largest	1280	1258
Smallest	313	317
Third quartile	925	888
Median	650	600
Mean	685	650
First quartile	425	394

Distribution of Schools by States:

The four-year junior high schools were distributed as follows: California; Compton, 5; Pasadena, 3; Pomona, 2; and Ventura, 1; Kansas; Pratt, 1; Parsons, 2; and one each in Missouri (Jefferson City), Oklahoma (Bartlesville) and Mississippi (Meridian).

The distribution of the three-year junior high schools is as follows: Six each in California, Indiana and Ohio; Three each in Illinois, Iowa, Kansas and Michigan; and two each in Minnesota and Missouri.

Nature of Comparison:

The respects in which the four-year and the three-year junior high schools were compared comprises the major features of the school organization. The features include; A, program of studies (Tables 5B, 5C); B, extra curriculum (Table 5D); C, teaching and administrative staff (Table 5E); D, material facilities (Table 5F); E, guidance program and library.

A. The Program of Studies:

An analysis of the program of studies in table 5B shows the total number of subjects offered by all the schools for each of grades 7, 8 and 9, and the average number of subjects offered for each grade. The subject offering for grade 10 was included at the bottom of the report.

Table 5B

Total and average number of subjects offered by the 17 four-year and the 34 three-year junior high schools.

Grade & Type of School	Total Number of Subjects of all Schools	Average Number of Subjects per School
Grade 7		
Four-year	204	12.00
Three-year	375	11.03
Grade 8		
Four-year	231	13.59
Three-year	417	12.26
Grade 9		
Four-year	341	20.06
Three-year	511	15.03
Grades 7 - 8 - 9		
Four-year	766	45.65
Three-year	1303	38.32
Grade 10	347	20.41

Table 5B shows, rather consistently, larger averages for the four-year school. The exceptions are the groups of social studies, mathematics, and science, which are fields made up more largely than others of subjects required of all pupils; thereby necessitating smaller offerings than are needed in fields which are predominantly electives. This is shown in table 5C.

Table 5C

Average number of different classes offered in grades 7-8-9 in the different subject areas in the 17 four-year and 34 three-year junior high schools.

Subject Areas	Four-year Schools	Three-year Schools
1. Language Arts:		
English	6.18	4.59
Foreign Languages	1.77	1.65
All language arts	7.95	6.24
2. Social Studies	3.29	3.44
3. Mathematics	3.71	3.74
4. Science	1.94	2.44
5. Practical Arts:		
Industrial arts	6.29	4.35
Home arts	4.82	3.68
Commerce	1.47	1.12
Agriculture	0.35	0.15
All practical arts	12.93	9.30
6. Fine Arts:		
Art	2.82	2.53
Music	7.24	5.82
All fine arts	10.06	8.35
7. Health & Physical Ed.	4.00	3.32
8. Guidance	1.77	1.50
All subject groups	45.65	38.32

The enrichment of the curriculum in grades 7-8-9 in the four-year unit is shown in table 5C. The evidence of enrichment is further reinforced by supplementary material furnished by the principals of the four-year junior high schools. The principals were asked to list the courses offered in their schools that were not available in their former three year junior high school. Aside from the regular 10 grade subjects which were added the courses most often reported were "additional" foreign language, general language, news writing or journalism, speech arts, dramatics, stage craft, advanced art, mechanical drawing, architectural drawing, machine shop, metal shop, homemaking, cooking for boys, home problems, advanced foods, general business and typing.

B. The Extracurriculum:

The extracurriculum has characteristically been accounted a salient feature of junior high schools. In this study, principals were asked for a full list of extracurriculum organizations and activities. The report here will be restricted to the non-athletic organizations.

Table 5D

Non-athletic extracurriculum organizations in certain groups in 17 four-year and 34 three-year junior high schools.

Group of Organizations	Four-year Schools Average Number	Three-year Schools Average Number
1. Pupil-government, school service, and honorary organizations.	4.00	2.88
2. Social, moral, leadership, and guidance organizations.	2.47	1.50
3. Departmental clubs.	1.17	1.26
4. Publications & Journalistic groups.	.70	.68
5. Dramatic, literary and forensic organizations.	.58	.70
6. Musical organizations.	.82	1.11
7. Special-interest clubs.	4.70	5.55
Total	14.44	13.68

The increased maturity of the 10th grader makes appropriate the more extensive development in the four-year schools of organizations shown in groups 1 and 2 of table 5D, and the less extensive development of organizations in group 7.

C. Teaching and Administrative Staffs:

The evidence assembled concerning the staffs of the schools is mainly in three aspects; 1st, the education of teachers as indicated by degrees held; 2nd, the sex representation among teachers; and 3rd, the administrative officers available.

The education of the teachers is presented in table 5F. The four-year schools have a smaller proportion of teachers without degrees and a larger proportion of teachers with higher degrees (mostly the Masters' degree) at the same time the four-year school has almost as large a proportion of Bachelors degrees.

Table 5E

Distribution of teachers in four-year and three-year junior high schools according to amount of preparation.

Measure of Preparation	Four-year Schools		Three-year Schools	
	Number of Teachers	Per-cent	Number of Teachers	Per-cent
Without degrees	33	6.1	88	10.4
With the Bachelors degree	338	62.6	561	66.3
With higher degrees	169	31.3	197	23.3

The distribution by sex of the teachers in the two groups of schools is as follows: four-year schools - men 41.1 percent, and women, 58.9 percent; three-year schools - men 37.4 percent, and women 62.6 percent. The portion of men may be favorably influenced by the more extensive athletic program in the four-year schools. The larger proportion of men in the four-year schools does not necessarily mean superior instruction, but it does make for a more nearly normal social situation.

Response of principals indicated about the same number of supervisory persons including guidance personnel in four-year and three-year institutions.

D. Special Rooms and Facilities:

Reports by principals on special facilities in the 17 four-year and 34 three-year schools is shown in table 5F.

Table 5F

Special rooms and facilities. Provided in plants of 17 four-year and 34 three-year junior high schools.

Groups of Special Rooms & Facilities	Four-year Schools		Three-year Schools	
	Number	Average	Number	Average
1. Industrial Arts	94	5.5	178	5.2
2. Homemaking	78	4.6	153	4.5
3. Other special classrooms & laboratories	98	5.8	135	4.0
4. Physical Ed. & Health	100	5.9	214	6.3
5. General	69	4.1	116	3.4
6. Other special facilities	9	0.5	18	0.5
Totals	448	26.4	814	23.9

Under special classrooms or laboratories were listed art, music, biology and general science laboratories, typing rooms, etc. The term general used in group 5 signifies rooms for general use such as auditoriums, stages and study rooms.

The average total number of different special rooms and facilities is significantly larger for the four-year than for the three-year schools. The groups of rooms found in greatest number in the four-year school are groups 3 and 5 (other special rooms or laboratories and general). The difference in favor of the three-year schools for "Physical Education and Health" is much more apparent than real first because a larger portion of three-year than of four year schools have combined gymnasiums-auditoriums and second, because of a larger proportion of the four-year schools are in California where physical education facilities are out-of-doors. Such facilities were not listed in the questionnaire.

When principals were asked to list the facilities that had been added to their schools (as the result of the introduction of grade 10", they listed biology and general science laboratories, additional shop space and equipment; mechanical drawing rooms, typing rooms, band and choral rooms, stage equipment, library enlargement and more extensive athletic equipment.

E. The Program of Guidance and Library:

The information on guidance and libraries was indefinite probably because many of the four-year units were comparitively new. One would expect that both the library facilities and guidance program of the four-year unit should be better developed than for the three-year unit, but in the early years of the four-year units the full development had not taken place.

Pros and Cons as seen by Principals:

Principals of the four-year schools were asked to list the advantages and disadvantages of the four-year school as compared to their former three-year schools. The advantages were combined into the following four groups: (1) advantages arising from the program (curriculum and extracurriculum), (2) those concerning pupils and guidance, (3) those relating to the teaching staff and (4) a scattering of others.

The principals note a broadened and enriched curriculum offering. In referring to the extra-curriculum, they were convinced that there was an advantage in the more mature pupil leadership in organizations and activities. In respect to pupils and guidance they commend the age span in the four-year school because it "carries pupils through early adolescence" and makes possible continuity of the guidance program. In the opinion of the principals, the four-year program attracts a staff with higher qualifications.

Several principals set down no disadvantages. The only disadvantage mentioned by any considerable number of principals concerned the greater range of ages in the four-year school.

-Summary-

The facts presented tend to show the following:

(1) A curriculum of greater enrichment.
(2) A greater development in the extracurriculum of organizations and activities that capitalize the greater maturity of the pupils.
(3) A trend toward a better prepared instructional staff.
(4) An enlargement of plant and facilities to accommodate the enriched program of instruction and activities."

Dr. Koos' study on the junior high school was presented in detail here because I wanted to keep the findings and the observations as they were originally and not make generalizations from them.

This part of the K-6-4-4 for Midland is far from complete but I would like to leave it here for the personnel in these areas to develop.

One observation of note as we are changing from the 6-2-4 to the 6-3-3 plan of organization is that both the students and the teaching personnel are beginning to appraise the educational program in a new light. Before the junior high was regarded by both as being of such short duration that it was a stepping stone to the senior high school rather than a program by itself. This is not intended as a criticism of the students or teaching personnel but rather a criticism of the organization. Such a short unit anywhere in the total educational program would be regarded in the same manner.

Happily we can already report a new appraisal by the personnel. This is particularly true of the prospective teachers. They are no longer secondary teachers who cannot find jobs in senior high but are people who prefer junior school teaching and have prepared themselves for this work.

C. Salary Schedule

When the necessity arises for moving personnel from one educational unit to the other many reasons for not wanting to move can be advanced. Some of the reasons might be attributed to educational momentum. We know the present program and are not sure of the new unit. Sometimes this momentum or continuance of thinking along a given pattern can be overcome by showing the challenge that exists in the new unit. As you pursue the reasons for hesitating to change you are soon convinced that where no salary change is involved the reasons that are advanced become fewer. In other words teachers can and do rationalize when confronted with such a problem.

Our Board of Education wisely adopted a single salary schedule for all areas of teaching kindergarten through the twelfth grade and proposed community college. This was a big factor in the present reorganization whereby the ninth graders and their teachers were moved to the intermediate school unit.

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Chapter VI

Present High School

A. Curriculum

Midland High School is a combined academic and vocational one with about one third of our students needing preparation for college and the other two thirds whose formal education ends with graduation from high school and are interested in vocational education. As a result the following seven programs of study have been developed.

There is a thread of general education which is typical of all the programs. Every student is required to take English until he has completed regular eleventh grade English which we designate as English IV. In the case of the college preparatory program regular senior English (English V) is advised. All students are required to take mathematics in the ninth grade either algebra or mathematics. All are required to take two years of social studies - U. S. History and U. S. Government and Economics.

1. COLLEGE PREPARATORY

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	P. Ed. (Act.)	U. S. History	Gov.-Econ.
P. Ed. (Act.)		Activity	Activity
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Art	Art	Adv. Algebra	Chemistry I
Biology	Biology I or II	Chemistry I	Language
Civics-Geog.	Plane Geometry	Language	Physics I
Home Making	Language	Physics I	S.Geom.-Trig
Journalism	Speech	Speech	Speech
Language	W. History		Typing I
Mech. Drawing			
Shop			

2. COMMERCIAL

STENOGRAPHY 9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	C. Arith.	Sten. I	Gov.-Econ.
Jr. Bus.	U.S.History	Typing I	Sten. II
Phys. Ed.(Act.)	P. Ed. (Act.)	Bkkpg. or Chem.	Typing II
		Activity	Activity
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Biology	Biology		Office Prac. if English requirements are completed.
Civics-Geog.	Geometry		
Home Making	H. Making		
Spanish	W. History		
	Salesmanship		
	Spanish		

9 Week SUMMER SESSION of Sten.-Typing and Off. Prac.

CLERICAL

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	C. Math.	Bkkpg.	Gov.-Econ.
Jr. Bus.	P. Ed. (Act.)	Typing	Typing II
P. Ed. (Act.)		U. S. Hist.	Calculators
		Activity	Activity
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Biology	Biology		Office Prac. if English requirements are completed.
Civics-Geog.	Homemaking		
Homemaking	Geometry		
Language	W. History		
	Language		
	Salesmanship		

SUMMER SESSION Typ. II - Off. Pract.

RETAILING

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	C. Arith.	U. S. History	Gov.-Econ.
Jr. Bus.	Salesmanship	Bkkpg. and/or Typing I	Retailing
Phys. Ed. (Act.)	P. Ed. (Act.)	Sales(if not taken in 10)	
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Biology	Mech. Draw.	Speech	Bookkeeping or Typing if English requirements are completed
Civics-Geog.	Homemaking	Wood Shop	
Homemaking	Art	Mech. Draw.	

90 hour Summer Session Retailing

5. Homemaking

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	Home Making II	Home Making III	Gov.-Econ.
Homemaking I	P. Ed. (Act.)	U. S. History	Activity
P. Ed. (Act.)		Activity	
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Art	Art	Art	Art
Biology	Biology	Chemistry	Chem. I
Civics-Geog.	Com. Arith.	Language	Language
Jr. Business	Geometry	Physics I	Physics I
Language	Language	Food Services	Typing I
	W. History		Food Services

4. AGRICULTURE

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	Geometry	Agri. III	Agri. IV
Agri. I	Agri. II	U. S. History	Gov.-Econ.
P. Ed. (Act.)	P. Ed. (Act.)	Activity	Activity
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
Biology	Biology I or II	Biology II	Chemistry I
M. Drawing I	Shop I or II	Chemistry I	Physics I
Shop I	World History	Physics I	Adv. Shop
		Adv. Shop	

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5. INDUSTRIAL

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	M. Drawing II	U. S. Hist.	Gov.-Econ.
Mech. Drawing I	Adv. Shop	Adv. Shop	Adv. Shop
Shop I	Auto I	Auto I,II	Auto I, II
P. Ed. (Act.)	Mach. Shop I	Mach. Shop I, II	Mach. Shop I, II, III
	Wood II	Arc Welding	Arc Welding
	P. Ed. (Act.)	Wood II, III	Wood II,III
		M. Draw. III	M. Drawing III, IV
		Activity	Activity
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
	Plane Geometry	Adv. Algebra	Chemistry I
	Biology	Chemistry I	Physics I
	Civics-Geog.	Physics I	
	W. History		

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6. NURSING

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra or Math.	Geometry	Chem. I or Physics I	Gov.-Econ.
Biology I	Latin II	U.S.History	Physics I or Chem. I
Latin I	W. History	Activity	Activity
Phys. Ed. (Act.)	P. Ed. (Act.)		
RECOMMENDED	RECOMMENDED	RECOMMENDED	RECOMMENDED
		Adv. Algebra	Typing
		Adv. Biology	

7. SCIENCE

9th Grade	10th Grade	11th Grade	12th Grade
REQUIRED	REQUIRED	REQUIRED	REQUIRED
English	English	English	English
Algebra	Pl. Geometry	Adv. Algebra	Gov.-Econ.
Biology	(Biology II,	(Biology II,	(Biology II,
Language	Chem. I or	Chem. I, II,	Chem.I,II
Activity	Physics I	or III or	or III,
	Language	Phys. I,II	Phys. I,II
	Activity	or III)	or III)
		U. S. History	Sol. Geom.-
		Activity	Trig.
			Activity

Students are usually allowed to take four subjects and one or more activities each semester. The philosophy which prompts such a request is twofold. First, we believe that a student might better do his best work in four subjects then to do less than his best in five subjects. Those who have a B average or better may take five subjects. Second, rather than take five or more subjects, we believe that the student might better develop a broader background by taking some of the activities such as band, orchestra, chorus, choir, speech, dramatics, radio, publications (school paper and annual), physical education, art, driver education, Future Farmers Association and Auxiliary, and conservation.

As you study these seven programs you will notice that the commercial, retailing, industrial arts and science program have outgrown the four years time alloted to them. This is shown by the large listing of subjects in the junior and senior year in the required group of which the student selects only one usually.

B. Counseling

The need for guidance or counseling becomes apparent as soon as the curriculum offerings are studied to enable the student to choose the area of instruction best suited to his needs and to select subjects in the area in keeping with his abilities. To aid the students a guidance program was organized which is summarized here very briefly.

1. Purpose
   The high school attempts to aid the student to make a more satisfactory adjustment; to choose courses and subjects more profitably; to obtain information regarding advanced schooling or job opportunity following completion of his high school career.

2. Personnel
   At present there is a director who administers and compiles results from the various tests given and coordinates the activities of thirteen teacher-counselors. Each is assigned a portion, in his turn, of an incoming tenth grade and remains as counselor for those students during their stay in high school.

3. Procedures

Each student is contacted formally twice during the year; once to acquaint him with the results of his tests and their significance and to lay tentative plans for a four-year course of study. The second contact is to prepare the definite election of subjects for the succeeding year. The student is encouraged to call upon his counselor at any time if he feels the need of help. There is also contact with those whose work is low as reported weekly by his teachers.

There have been a few trials at group guidance of a vocational nature with apparently good results. Plans are under way this year for a continuation of this practice with more emphasis on trades and jobs rather than on professions.

4. Evaluation

A faculty committee, not of counselors, recently conducted a survey of two classes, one which had counselors and one which did not, to determine if there were any noticeable benefits in the opinions of the students. The results were very gratifying. Many suggestions for further services were offered by the students and some were put into effect.

C. Extra curriculum

In each of the seven programs outlined in Part A, an activity was listed as a required part of the program for each year. The only activity that is specified is physical education formerly for the 9th and 10th grade years and now for the 10th grade only. There are many other activities that are offered during the school day that students are encouraged to take to meet their one activity requirement. Since we have a seven hour day a typical students program for the 10th grade might be:

Typical Program

1. English.....(required)
2. Study hall.....(required)
3. Industrial Arts (Boys) or
   Homemaking (Girls)
4. Band, Glee Club, Choir
   Chorus or orchestra.....Activity
5. Physical Education - activity...(required)
6. Mathematics -in most programs...(required)
7. Science or Social Studies

An examination of the program shows that one activity is required at the 10th grade and that one more activity is suggested but not required. Many students enter high school with an interest in music that they would not want to lay aside for one year while they take their required physical education.

The activities listed below are all offered during the school day and are elected by the student as the second in the 10th grade year or the required one for the 11th and 12th grade year. An activity is required in the 11th and 12th grade year but they are all elective activities and are chosen from the following groups.

Electives that give activity credit:

A. Boys athletics
B. Driver Education
C. Hall monitors
D. Attendance assistants
E. Library assistants
F. Publications - School paper
- School annual
G. Art - Beginning art
- Advanced art
H. Music Band
Orchestra
Choral - Glee Club - Choir - Chorus
I. Physical Education - Body Mechanics
Cadet P. E. teaching
J. Future Farmers (boys)
Future Farmers Auxiliary (Girls)
K. Switchboard Club (sound and lighting - auditorium stage)
L. Conservation Club
M. Student Council
N. Speech and Dramatics

In addition to the activities we have a well organized club program whose activities are in the extended school day. These are designed to teach the student group participation and to develop leadership qualities.

A. Boys and Girls Intramural Athletics
B. Cheer leaders
C. Projector club
D. Olympic Club (Girls Athletic Club)
E. Amateur Radio Club
F. Latin Guild
G. Hi-Y (Boys) and Tri-Hi-Y (Girls)
H. Dramatics
I. Ja-Oui-Si (German-French and Spanish Club)
J. Ushers Club
K. Commercial club
L. Varsity club (Boys athletic club)
M. Science Club
N. Retailing and office club

D. Staff

The teaching staff of the high school is comprised of 44 full time teachers, 9 part time teachers with duties assigned to senior high school equivalent to 3 3/5 teachers.

Of the 44 full time teachers, 13 are teacher counsellors with 4/5 of a teaching load and 1/5 counseling load. Teachers are assigned counseling on a 1/5 basis on the premise that teaching and counselling are so interrelated that it is difficult to determine where one begins and the other ends. There is a hazard is using full time counselors in that the classroom teacher will attribute the failure of the school program to the counseling and vice versa. When many are participating in both areas the sound appraisal of both classroom work and guidance soon develops.

Of the 44 classroom teachers 26 have masters degrees. Of the 9 part time teachers 5 have masters degrees.

As far as certification is concerned more than half of the faculty members have advanced degrees. The instruction area in which less than half have masters degrees is in the industrial arts area. Here the lack of advanced training is somewhat offset by practical work in industry. It is difficult to compare industrial experience and advanced degrees as far as increased contributions to the school program by the teacher is concerned. In the fields of industrial arts, science and business education probably both are desirable.

E. Administration

The Board of Education is composed of seven members elected at large by popular vote.

The chief administrative officer is the superintendent of schools who is assisted by supervisors of music, physical education, vocational education, a business manager and a superintendent of grounds and buildings.

The administrative officer in charge of a given school unit is the principal. In the case of the high school the principal is assisted by a dean of girls, an assistant principal and a director of guidance. All of the assistants to the principal have a teaching assignment equivalent to a 1/5 load or more. This keeps part of the administration in close touch with classroom problems. It would be desirable for the principal to take a 1/5 teaching load but is not too practical. All administrative officers in the high school have masters degrees.

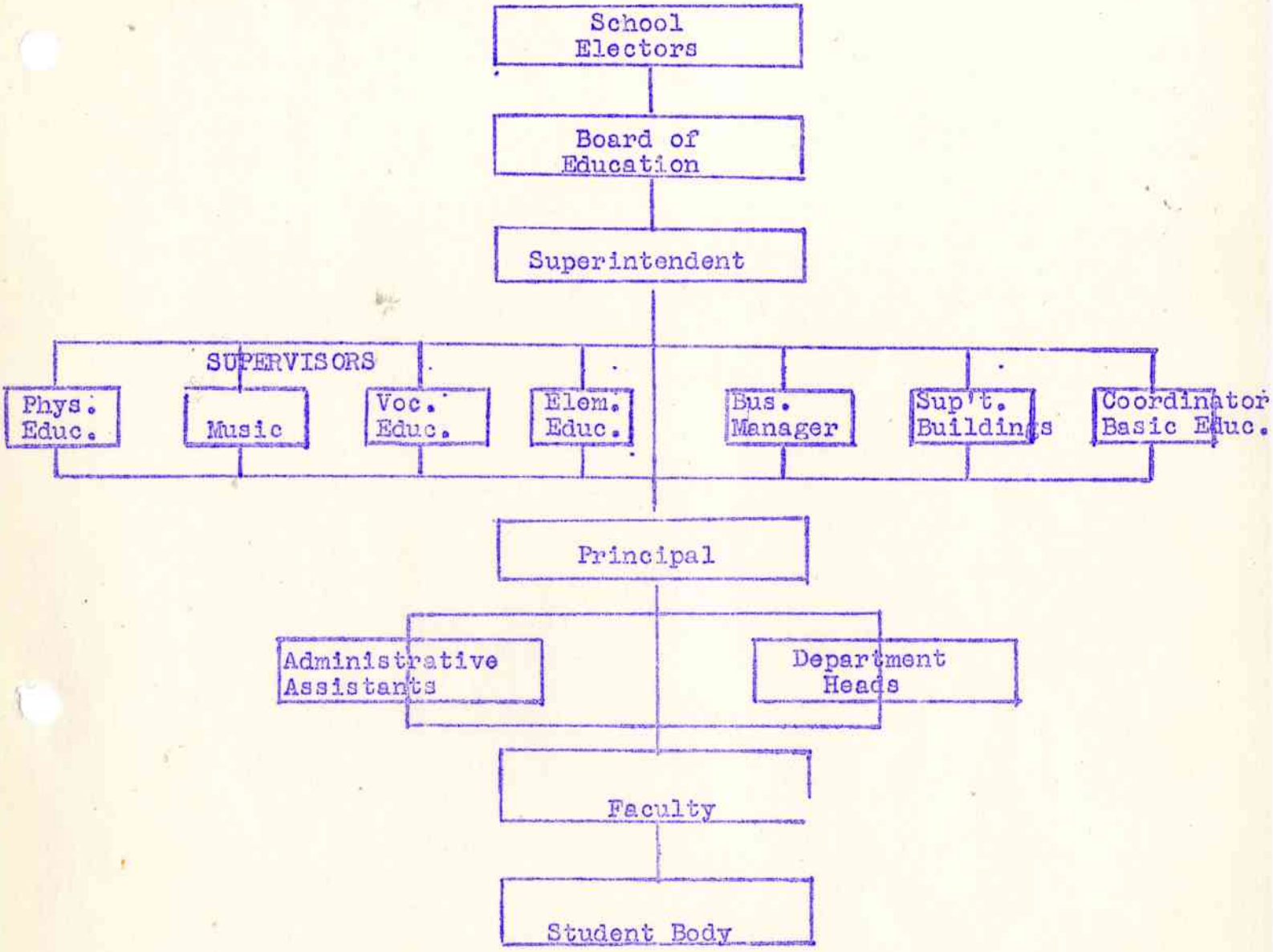


Figure 6A

The department heads are chosen for their experience and leadership. In the case of physical education and music they are also supervisors of these areas for the entire public school system.

F. Area Serviced by Midland High School

Referring to Map No. 6B of Midland County the area serviced by Midland High School is bounded by a red line. Midland County is bordered on the north by Gladwin County. A rural agricultural school at Beaverton serves some of the students in the Edenville area of Midland County. Coleman is becoming a consolidated school and is serving the area in the northwest section of the county. Geneva and Greendale Townships on the west side of the county are served by Mt. Pleasant and Shepherd High Schools. Jasper and Porter townships are served by Breckenridge and Merrill High Schools. To the south and east is Saginaw which serves the townships within her county except a portion of Richland and Tittabawassee townships nearest to Midland. The first row of townships in Bay County are much closer to Midland than to Bay City and are served by Midland High School.

Midland is the trading center for these people and Midland High School services this area.

Because of good schools now in existance or developing around Midland it is doubtful that we will enlarge the area we service by any appreciable amount in the next few years.

The population within this area probably will increase very rapidly. A review of Figure 1, on page 2C, shows that the great majority of the people of Midland County are within the city. Rural school census figures show that a great majority of the rural population of the county live within 6 to 8 miles of the city. Since most persons in Midland County earn their living in Midland and would like to be rather close to their work it appears that the increases in population in the county will be within the area serviced by the Midland High School.

G. Predicted Enrollment From Growth Curves for Both Intermediate High School and High School.

The data compiled in "Growing Schools for a Growing Midland" was based upon census of children of preschool and school age. There is every reason to believe that these figures are correct. When census figures at a given grade level are used to project enrollment into higher grade levels in later years drop-out information becomes important. Drop-out percentages had not been as carefully studied in 1947 as they have since. On the basis of new data on these percentages the projected enrollment data was compiled as shown in Chart 6C. The drop-out percentages used are shown at the bottom of the chart. The drop-out percentage of 11.0% for 8th to 9th grade is probably the least accurate but is the best available figure for the past three years. The remaining figures have been developed over a 10 year period and are used regularly in predicting the yearly enrollment in Midland High School.

ESTIMATED INTERMEDIATE AND HIGH SCHOOL ENROLLMENT
BASED ON PRESENT ENROLLMENT AND PAST DROP-OUT EXPERIENCE

	8 Grade				8th Grade						
	7 Res.	Res.	Non. Res.	Par.	Total	9	10	11	12	7-9	10-12
1947	228	192	228	44	464	379	330	314	265	779	909
1948	199	250	272	56	578	413	346	309	267	862	922
1949	226	200	314	54	568	513	377	324	258	939	959
1950	223	227	339	40	606	503	468	353	276	953	1097
1951	231	224	424	50	698	540	459	438	300	995	1197
1952	213	232	426	63	712	621	492	430	372	1066	1294
1953	236	214	420	59	693	635	566	461	365	1085	1392
1954	266	237	435	74	746	617	579	530	392	1120	1501
1955	245	263	*455	*62	780	664	563	543	451	1172	1557

* Estimates from growth curves

Studies over the past 10 year enrollment data show the following drop-out average percent ages

8 to 9th - 11.0%
9 to 10th - 8.8%
10 to 11th - 6.3%
11 to 12th -15.1%

Chart 60

Using such figures the greatest error in predicting enrollment has been 4% and the least $\frac{1}{2}$ of 1%. The 4% error has been attributed to the effect of a local strike in industry more than to any error in the drop-out percentages. We feel that this was quite certain since the students dropped out one year to work and were back in school the following year.

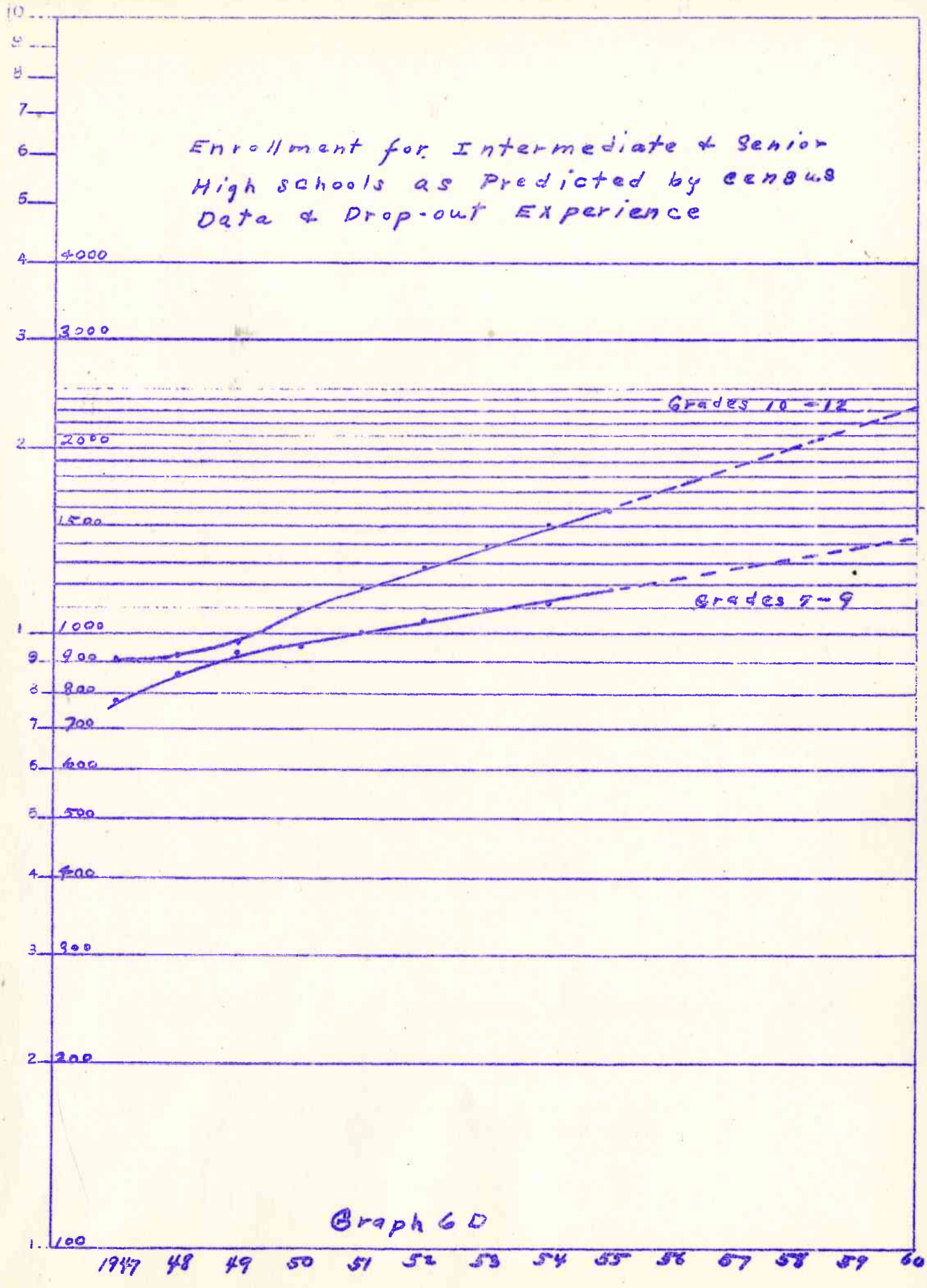
This data has been plotted on a graph 6D. The graph is plotted on logarithmetic graph paper. The growth from 1950 on to 1955 is a projected growth curve and as such may contain accumulated errors such as a gain or loss in employment which would cause a migration of people. Since that portion of the curve from 1950 to 1955 is a straight line it can be drawn with greater accuracy than a curved one and probably can be projected for another 5 year period to 1960 with greater accuracy than a curved line on ordinary graph paper.

The errors so far in the projected growth figures have been in the direction that the predicted figure was higher than the actual.

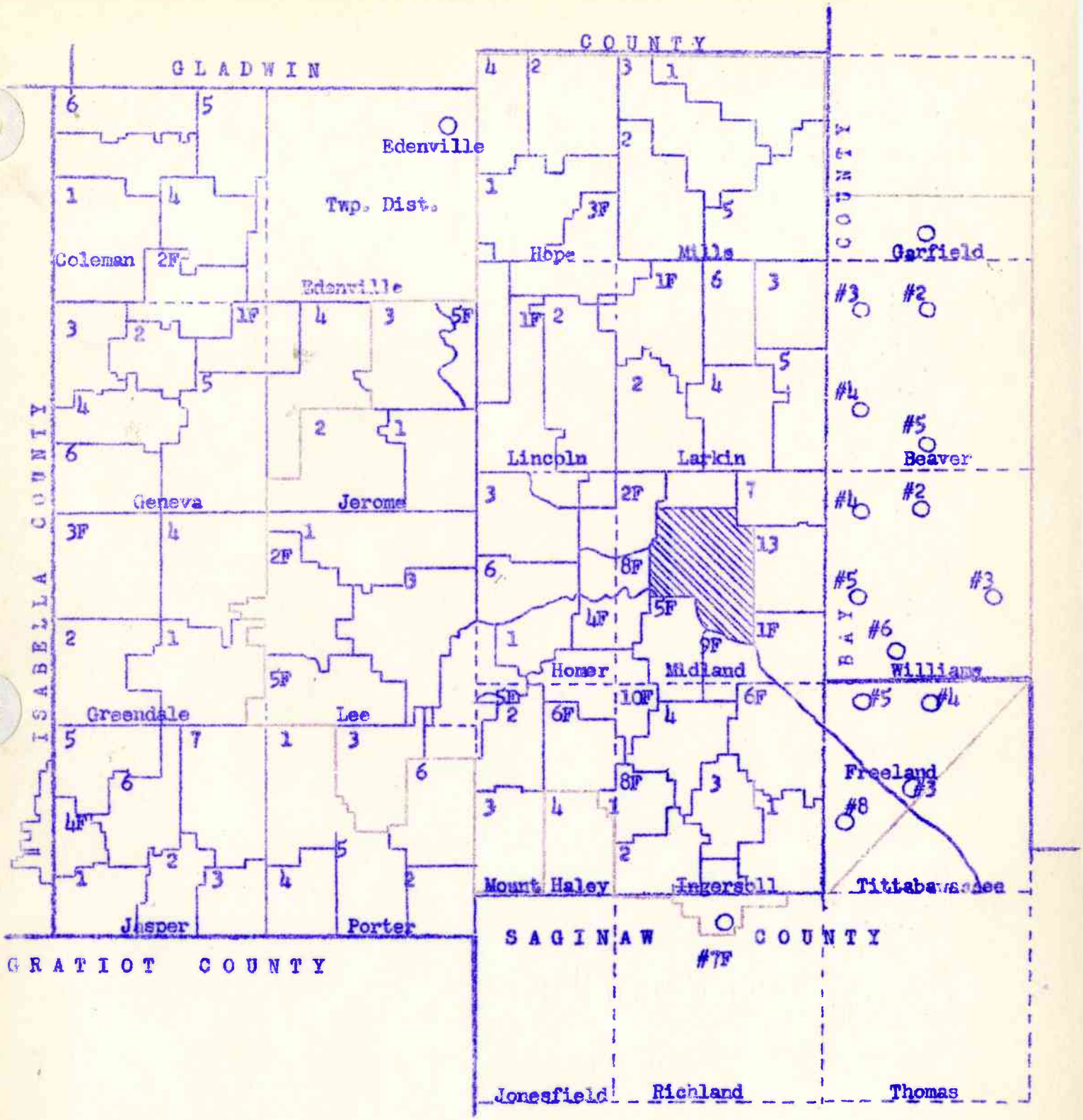
The curve shows an enrollment of 1575 for grades 10 through 12 in 1955 and 1172 for grades 7 through 9 for 1955. "Growing Schools for Growing Midland" showed a 7-9 enrollment in 1955 of 1333 and 10-12 enrollment of 1714.

As far as the intermediate schools are concerned the Northeast school probably can accomodate 650 students. The South west intermediate can accomodate about 500. This would give a combined enrollment of 1150. This would indicate that during the 1954-55 or 1955-56 school years the intermediate high schools will be filled to capacity. By converting the present senior high school to an intermediate high school and discontinuing the South West Intermediate the capacity would rise to 1800 or 1850 since the present high school has a capacity of 1150 to 1200. If we refer to graph 6D again we see that this would carry us beyond 1960 since the enrollment at that time would probably be not more than 1500.

This does not take into account the 7th and 8th graders from adjacent districts outside the city who might be accepted on a temporary basis. During the school year 1950-51 about 60 7th and 8th graders from adjacent districts will enroll in the intermediate high schools.


Enrollment for Intermediate & Senior High schools as Predicted by census Data & Drop-out Experience
Grades 10 - 12
Grades 7 - 9
10
9
8
7
6
5
4
3
2
1
4000
3000
2000
1500
1000
900
800
700
600
500
400
300
200
100
1947
48
49
50
51
52
53
54
55
56
57
58
59
60

Graph 6 D



MIDLAND COUNTY, AND PORTIONS OF BAY AND SAGINAW
COUNTIES SERVED BY MIDLAND HIGH SCHOOL

Map 6B

Chapter VII

Junior College Movement

History of Junior College Movement

Early Proposals for Junior Colleges

Even as early as 1851, the year before Henry Phillips Tappan became president of the University of Michigan, he wrote a volume dealing with university education.[2] To him education had two states - the preparatory (Junior College) and the executive(Senior College).

"After a right worthy discipline of the man, by the preparatory course, we next proceed to the executive part of education. Under this denomination we embrace professional studies as law, medicine, theology, or the studies relating to any course of life for which the individual may design himself."

Another educational leader who early sensed the desirability of development along somewhat similar lines was William Watts Falwell, president of the University of Minnesota.[2] In his inaugural address, delivered in 1869, he urged relegating to the secondary schools "those studies which now form the body of work for the first two years in our ordinary American colleges. It is a clear case that such a transposition must by and by be made. How immense the gain of a youth who could remain at the high school or academy, residing in his home, until he has reached a point, say somewhere near the end of the sophomore year, there to go over all those studies which as a boy he ought to study under tutors and governors! Then let the boy, grown to be a man, emigrate to the university, there to enter upon the work of a man."

Lewis Institute under the direction of George Carmen added two years of Junior College work in 1896. Joliet Township School added a Junior College program in 1902. Both of these institutions received their inspiration from Wm. Raney Harper, Prof. of Education of the University of Chicago.

The number of Junior Colleges grew rapidly as is shown below.

	Number of institutions in 1922	in 1950
Local Public Junior Colleges	46	260
Private Junior Colleges	137	350
Normal Schools offering 2 year Liberal Arts Programs	24	60
Totals	207	620

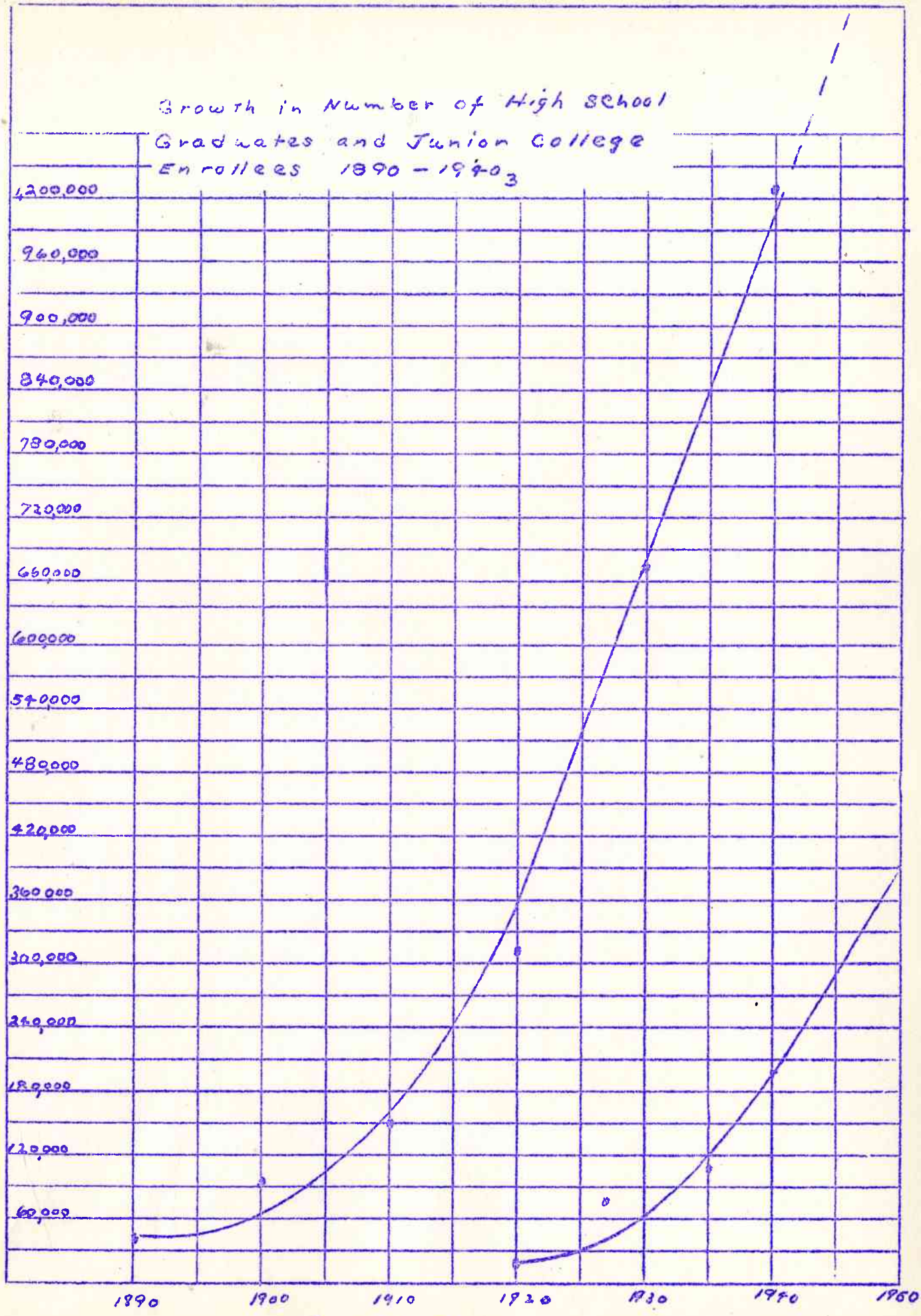
This is a rather rapid growth when one considers that colleges and universities grew to a total of 1200 in 300 years and junior colleges grew to a total of 600 in 50 years.

B. Types of Junior Colleges

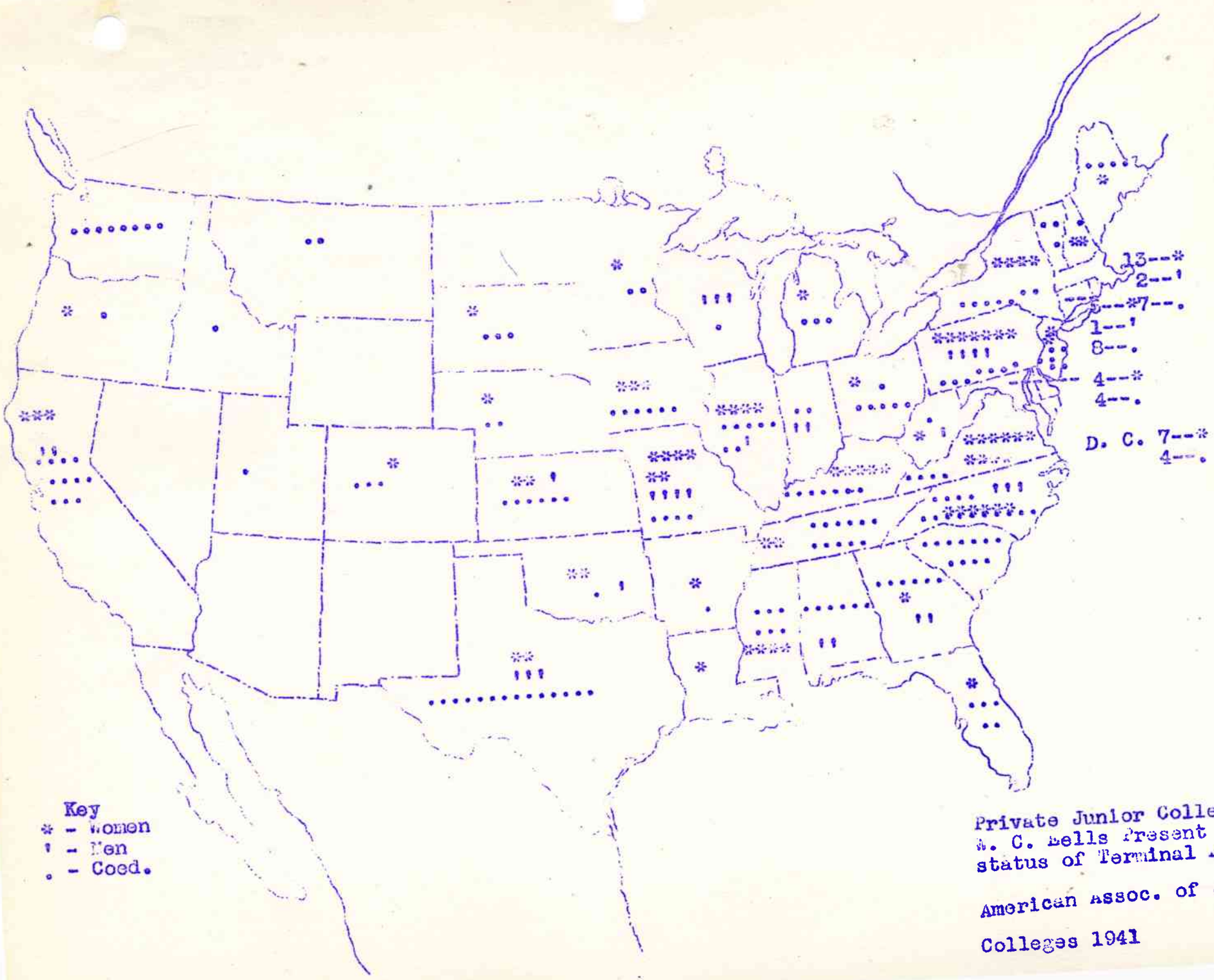
Junior Colleges could be classed as two types. First, the privately owned junior college of the type of Ward Belmont and Stevens College. Second, the public owned junior college such as Bay City Junior, Jackson Junior Colleges in Michigan.

The private owned junior college grew up in the eastern states as a so called preparatory institution for senior colleges and universities. The number and location of those colleges is shown in Map 7A. As the development of the junior college moved toward the central states the function of education for those who did not plan to go to a senior college or university was introduced. This new function became known as semi-professional education. A good example of this type of education is a two year secretarial training program. In recent years the term terminal education has also been used to indicate that education that is completed at the end of the junior college course.

The Public Junior College developed in the central and western states. As you will notice in Map 7B they are largely coeducational institutions. This is to be expected since they are in this respect upward extensions of the public school systems.


Growth in Number of High School Graduates and Junior College Enrollees 1890 – 1940
4200,000
960,000
900,000
840,000
780,000
720,000
660,000
600,000
540,000
480,000
420,000
360,000
300,000
240,000
180,000
120,000
60,000
1890
1900
1910
1920
1930
1940
1950

Graph 7C



Private Junior Colleges
A. C. Bells Present
status of Terminal Educ.

American Assoc. of Jr.

Colleges 1941

The growth of the junior college movement might be presented in another way by showing the growth in enrollments from 1890 to 1950. This is shown in Graph 7C. This graph shows that the junior college movement as far as enrollment is concerned had reached a significant figure of 18,000 students in 1920. The high school graduates in 1920 had reached a figure of 318,000. By 1940 the junior college enrollment had reached 198,000 students and the high school graduates had reached 1,206,000. Percentages comparisons between these two graphs cannot be made since the high school curve represents only one class, graduating seniors; while the junior college enrollment curve represents two classes, freshmen and sophomores in junior colleges.

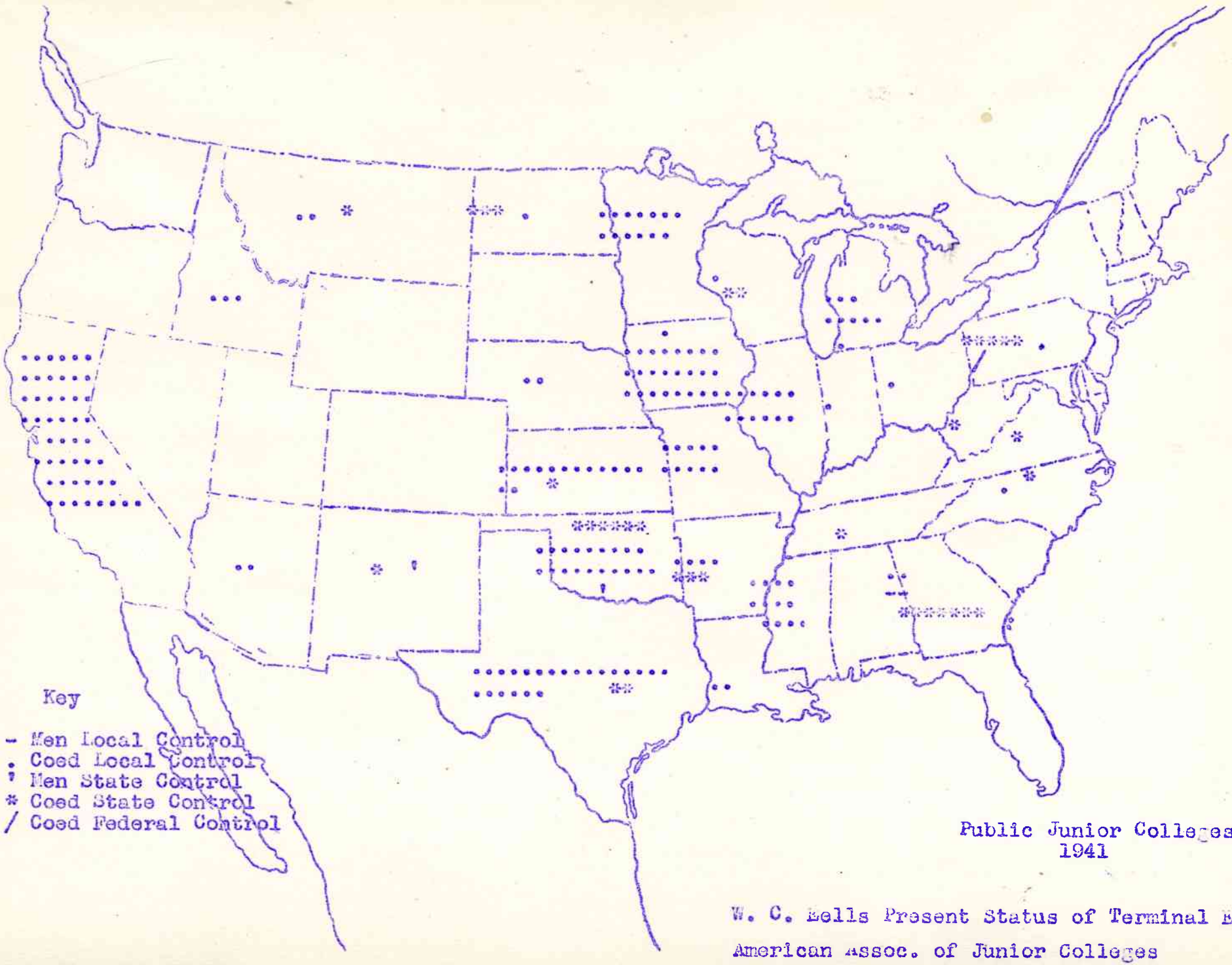
C. Types of Public Junior Colleges

The Public Junior Colleges may be classified into three groups depending upon their degree of association with the high school of their respective districts. These classifications are (a) separate two year, (b) association and (c) four year

Separate Two Year: The separate two year junior college is a public junior college which is housed in a separate building from the high school and is supervised by a separate administrative staff. Port Huron Junior College is an example of this type. These units are under the supervision of the board of education and the superintendent of schools. In some states, not Michigan, they may have separate boards of education because they encompass a larger district than the K-12 public education district.

Association: The association is a junior college which is housed in the high school building and uses some of the high school facilities such as gymnasiums, shops, laboratories and other special class rooms. This junior college has an administrative head who is separate from the high school. Bay City Junior College and Highland Park Junior College are examples.

Four year: The four year junior college, commonly called a community college, is the junior college part of the 6-4-4 plan. It encompasses grades 11-12-13-14. It has a single administrative head for all four grades. There are no examples in Michigan at the present time.



Public Junior Colleges
1941

W. C. Eells Present Status of Terminal Educ.
American Assoc. of Junior Colleges

Chapter VIII

A Comparison of the Three Types of Public Junior Colleges

In 1940, Dr. Leonard Koos, Professor of Secondary Education at the University of Chicago began a comparative study of the three types of Public Junior Colleges. Much of his statistical information was collected by questionnaires. The questionnaires were followed by a personal visit by Dr. Koos to all of the 6-4-4 units and a large number of the association and separate two-year units. His findings are reported in his book "Integrating High School and College"[2] Harper Bros., 1946.

The comparison of the types is represented here in somewhat of a condensed form and yet complete enough so that the author's intentions are not misrepresented.

A. 6-4-4 Plan Schools in 1940[2]

"Commitments to the 6-4-4 plan: Pasadena, California was the first school to approve the plan and to continue with it to date. Pasadena adopted the plan in 1928. The total number of systems known to be operating on this plan during the school year of 1940-41 was ten. The schools were:

Pasadena, California - 1928
Ventura, California - 1930
Compton Secondary School District, California - 1931
Pomona, California - 1938
Moberly, Missouri - 1929 (7-3-4 plan)
Parsons, Kansas - 1935
Pratt, Kansas
Jefferson City, Missouri
Bartlesville, Oklahoma
Meridian, Mississippi

All were adopted by 1940-41 school year.

The above schools were all visited by Prof. Koos and are included in the following data. Since 1940-41 the following schools have approved the plan:

Napa, California
Stockton, California

One of the first four-year junior colleges to be organized probably was Stephens College at Columbia, Missouri. Stephens is not an integrated unit of a public school system, rather it is an institution which accepts some high school juniors and provides a four year program of education through the sophomore year of college.

In order to identify main types of junior colleges, a questionnaire was sent to all public junior colleges. Usable replies were received from 167 which represented from 3/4 to 4/5 of the total.

The relationship of housing and administration of the high school and junior college was used as the basis of separation into three groups.

(a) Separate two year - Those junior colleges housed in separate buildings on the same site with the high school or on separate sites having separate administrations.
(b) Association - Those junior colleges housed in the same building - using some of the same facilities - but under separate administrations.
(c) Four year (6-4-4 plan) combined and cooperative use of the same buildings under the same administrations.

Table 8A

Distribution by size and type of organization in 1940-41 of 167 local public junior colleges.

Type of Organization	Enrollment				
	100 or less	100-199	200-499	500 or more	Totals
Separate Two Year	4	16	12	24	56
Association	29	31	37	4	101
Four Year		3	3	4	10
Totals	33	50	52	32	167

The distribution of 167 local public junior colleges by size of enrollment and type of organization is shown in Table 8A. A glance at the totals in the right hand column shows that the associations outnumber the other types. Associations and four year junior colleges combined make up almost exactly two-thirds of the total."

B. The curriculum of the Senior High School and of the typical Junior College.

2

"To determine the amount of specialization that might be possible at the 11th and 12th grade level of high school and the freshman and sophomore level of college, a study was made of the required courses at both of these levels. Table 9B shows the subjects usually required and the number of junior colleges requiring such subjects exclusive of Physical Education.

Table 8B

Subjects generally required and the number of junior colleges requiring such subjects in 52 two-year local public junior colleges.

Required Subjects	Number of Junior Colleges
English	45
History of English Literature	6
Speech	1
American Government	16
Orientation	7
Library Science	2
Economics	1
Four Survey Courses	1

Perhaps a better view of the total amount of time consumed by required subjects in two-year junior colleges can be obtained from Table 8C in which the number of semester hours of required subjects and the corresponding number of junior colleges making such requirements.

Table 8C

Semester hours of required subjects and the number of the 52 public junior colleges making such requirements.

Semester Hours	Number of Junior Colleges	Semester Hours	Number of Junior Colleges
30	1	9	3
18	1	8	5
15	2	7	3
14	1	6	17
12	5	5	6
10	1	2	5

There is a wide range in the number of required semester hours. One third (17) of the junior colleges require only 6 semester hours. If we add together the number that require 2, 5 and 6 hours we have 28 of the 52 junior colleges represented. Thus more than half of the colleges require 6 semester hours or less. The usual number of semester hours carried by students in the first two college years is 30 to 32 hours. We see that required subjects make up on the average about 1/5 or less of the total.

Opportunities for specialization in junior colleges

A major factor in keeping down the universal requirements in these junior colleges is the extent of curriculum specialization that is afforded and encouraged.

The problem of holding to an optimum proportion of all student programs for general education is further complicated by the strong movement in junior colleges in recent years toward terminal curriculums at the same time that preparatory programs are maintained. Of the 52 junior colleges studied about 1/3 of the curriculums offered were terminal in nature.

Requirements in grades 11 and 12

The program of studies for twenty-five high schools were examined. Fifteen of the high schools were 3-year schools while ten were 4-year schools. The schools were located in 14 different states. Some of the high schools were part of the same school systems as the junior colleges studied earlier. The program of studies were those in operation in 1940-41.

Table 8D

Subjects required of all students in grades 11 and 12 and the number of schools making such a requirement in 25 high schools.

Required subject	Number of High Schools
English	24
United States (American) History	20
Constitution or American Government	8
United States History and Government	1
Social Science	1

The great majority of these schools required only English and United States History. Since we are not sure of the number of units of English required in the 11th and 12th grade probably a better way to present this material is shown in Table 8E where the number of required units in the 11th and 12th grade is shown."

C. The Curriculum Expansion or Enrichment Through the Four-Year Junior College or Community College.

2

"The prewar years saw the universalization of high school education so the postwar years will see the universalization of junior college level of education.

One basic factor in the universalization is the technological development which through increased production with less labor, progressively extends the age of employment of youth. The extension of the educational program to match the technological development is inevitable. Another factor has been the increasing complexity of society, associated with the technological development: the increasing complexity demands a longer period of education in order to make a successful living. Extension of the period of universal education has come about without too little consideration of the make-up of education in its general and specialized elements. This chapter discloses the promise of a plan that looks on the later high school and the first two college years as a single continuous period of education.

The four-year junior college program at Pasadena has the following requirements for all students, grades 11-14.

Humanities - 10 hours
Physical Science - 10 hours
Orientation - 5 hours
Social Studies - 10 hours
The American Family (girls only) - 6 hours

Humanities: The course in humanities is "designated to enable the student to become aware of man's expression in the arts and shows what contributions have been made by those cultures which have preceeded us and how we have adapted those contributions to our own needs." (3 yr. English requirement)

Physical Science: The course in physical science aims to "assist the student in the understanding and appreciation of the part played by physical sciences in civilization." Emphasis is placed on typical contributions to man's thinking and to his accomplishments during the past few centuries, from the fields of mathematics, physics, chemistry, astronomy, geology, engineering and technology.

Orientation: The requirement in orientation is "a one semester course in group guidance in which the student becomes acquainted with the college, and with problems incidental to college life, to business life and social life." Directed supervision of methods of study is maintained and the student takes psychological, personality and vocational tests and in group discussions learns the meaning of these tests.

Social Studies: The course in social studies is described as an introduction to the major problems of living in American civilization today.

The American Family: The course aims to acquaint the student with the scope of homemaking and to give an insight into the social and economic positions of modern homes.

Pasadena offers about 50 curriculums which are approximately equally divided between the "Certificate" (University preparatory) and the "Diploma" (non University - terminal). The certificated curriculums include:

Liberal Arts	Civil Engineering	Medical
Art	Commerce	Music
Astronomy	Electrical Engineering	Social Science
Chemistry	Law	

Diploma curriculums include:

Liberal Arts	Technology	Forestry
Accounting	Business Education	Landscape Design
Art	Civil Technology	Merchandising
Auto Mech.	Clerical	Recreation
Aviation	Cosmetology	Medical Assistant

A typical certificate curriculum is the Liberal Arts Certificate Curriculum.

FRESHMAN (11TH YEAR)

Subject	Semester I	Semester II
Humanities 1A-1B	4	4
Physical Science 1A-1B	4	4
Orientation I	1	
Language 1A-1B or	4	4
Language 3A-3B	3	3
Mathematics or Elective	4	4
Physical Education or ROTC	1	1
	17-18	16-17

SOPHOMORE (12TH YEAR)

Subject	Semester I	Semester II
Social Studies 1A-1B	4	4
Composition 1A-1B	2	2
Language 2A-2B or	4	4
Language 4, 52A	2	3
American Family 12A-12B (women)	3	3
Sequence course in Humanities or Science	3	3
Science, Mathematics or Elective	4	3
Physical Education or ROTC	1	1
	16-18	16-17

JUNIOR (13TH YEAR)

Subject	Semester I	Semester II
Composition 51A-51B	3	3
Language 52A-52B or	3	3
Language 54, 55	2	2
*Orientation 51	1	
Psychology 51A-51B	3	3
Science	4	5
Social Science or Math.	3	3
Physical Education or ROTC	1	1
	17-18	17-18

SENIOR (14TH YEAR)

Subject	Semester I	Semester II
Philosophy 75A-75B or Language or Math.	3	3
Music History 57A-57B	3	3
Science	4	
Art	3	3
Social Arts (women)		3
Elective	2,3 or	6
Physical Education or ROTC	1	1
	16	16

*If not taken in freshman year

The Diploma Curriculum used for illustration is the "Electrical Technology Diploma Curriculum".

FRESHMAN (11TH YEAR)	Semester I	Semester II
Physical Science 1A-1B	4	4
Algebra 5A-5B or Algebra 4A-4B	4	4
Humanities 1A-1B	4	4
Orientation I	1	
Instrumental Drafting 1,2	4	
Production Processes Laboratory 1A-B or Metal Production Laboratory 3A-B or Electrical Laboratory	4A-B	4
Physical Education or ROTC	1	1
	18	17

SOPHOMORE (12TH YEAR)	Semester I	Semester II
Social Studies 1A-1B	4	4
Physics 1A-1B	4	4
Slide Rule 19		1
Trigonometry 13 or 11	4	
Composition 1A-1B	2	2
Production Drafting 16A-16B	4	
Production Processes Laboratory 1A-B or Metal Production Laboratory 3A-B or Electrical Laboratory	4A-B	4
Physical Education or ROTC	1	1
	19	16

JUNIOR (13TH YEAR)	Semester I	Semester II
Industrial Electricity 502A-502B	5	5
Applied Electrical Theory 506A-506B	3	3
Electrical Drafting 504A-504B	2	2
*Technical Math. 907	4	
*Applied Mechanics 911		4
Technical Reports 906A-906B	2	2
Physical Education or ROTC	1	1
	17	17

SENIOR (14TH YEAR)	Semester I	Semester II
Industrial Electricity 552A-552B	5	5
Applied Electrical Theory 556A-556B	3	3
Electrical Drafting 554A-554B	2	2
*Materials Testing Laboratory 954A-954B	2	2
*Strength of Materials 960A-960B	3	3
Industrial Organization 952A-952B	2	2
Physical Education or ROTC	1	1
	18	18

*Technical Mathematics 908A-908B; 958A-958B may be substituted when the student does not qualify for the courses listed.

The College of the University of Chicago

The College of the University of Chicago is interested in the preparatory program for the university student primarily. The faculty of the University of Chicago have rejected the elective system whereby students are forced to make their own selection of subjects on the basis that they do not have the wisdom to do so. In fact they came to college to acquire such

wisdom. The Chicago faculty has worked out, over a period of years, a system of general courses which cut across the many special fields in the University curriculum and consist of a careful selection of fundamental material in these fields.

A brief description of the general courses is given here to show similarity between the Chicago and the Pasadena curriculum.

Science: The three year course in natrual science falls into two parts. One year is spent in each physical and biological science. The third year may be spent in either.

Social Science: The first year is devoted to American political institutions. The second year begins with an examination of the kinds of problems which arise in social studies and the methods used in solving them. The year is devoted to an analysis of the problems of freedom and control of contemporary society.

Humanities: The three year sequence of courses in humanities deal with literature, art, music, philosophy and history. Its purpose is to acquaint students with the major achievements in these fields and to develop competence in the analysis, understanding, and appreciation of historical, rhetorical, literary and philosophic writings and works of art and music.

Writing: The three year course in writing is designed to develop skill in written composition. They are designed to train the student to deal effectively with the writing problems he is likely to encounter.

Observation, Interpretation and Integration: The one year course is designed to clarify for students the relationship of the subject matter of the general courses in which they have been working. It leads students to analyze and compare the methods of acquiring and testing knowledge in the natural sciences, the social science and the humanities; and it deals with the history of the relations between the various fields of human knowledge.

The four year curriculum is included here for comparison with the Pasadena curriculum.

First Academic Year	Second Academic Year
1. Biological Sciences 1 or Physical Sciences 1	1. Biological Sciences 2 or Physical Sciences 2
2. Social Sciences 1	2. Social Sciences 2
3. Humanities 1	3. Humanities 2
4. English 1 (Reading, Writing, and Criticism)	4. English 2 (Reading, Writing, and Criticism)
Third Academic Year	**Fourth Academic Year**
1. Physical Sciences 3 or Biological Sciences 3	1. Observation, Interpretation, Integration
2. Social Sciences 3	2-3-4. Open for special-interest courses, or for advanced work
3. Humanities 3	
4. English 3 (Composition)	

Evidence of Vertical Integration

An unquestionably logical assumption in establishing and maintaining a four-year junior college must be the vertical integration of the traditionally separate high school and college levels of work.

To study the integration the transcripts of several hundred students were examined for subject sequences between high school and college. Two types of sequences were observed; first, the type of sequence in which the student repeated the course taken in high school at college. This was designated as a questionable sequence. This type of sequence was found most often in American History, Economics and Chemistry. The findings are presented in Table 8E.

Table 8E

SUBJECT	Type of Organization: Separate Two-Year (16-1209)*		Association (22-1, 635)		Four-Year Newer (5-220)		Four-Year Older (5-387)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
American History	221	18.3	187	11.4	45	20.5	38	9.8
Economics	82	6.8	131	8.0	20	9.1	9	2.3
Chemistry	245	20.3	327	20.0	74	33.6	57	14.7
All three subjects	548	45.3	645	39.4	139	63.2	104	26.9

*Number of junior colleges represented and the total number of students in the sample.

In Table 8E the questionable sequences were less for the older four-year institutions who had been able to work out the proper integration. If this is true probably the desirable sequences would be greater in the older four-year institutions. The desirable sequences found were in the sciences and the social sciences. These are shown in Table 8F.

Table 8F

Numbers and percentages of transcripts showing certain commendable sequences of courses taken both in later years of high school and in junior college.

SEQUENCE	Type of Organization: Separate Two-Year (16-1209)*		Association (22-1,635)		Four-Year Newer (5-220)		Four-Year Older (5-387)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Biology-Zoology	33	2.7	85	5.2	3	1.4	18	4.6
Biology-Botany	27	2.2	84	5.1	1	0.5	12	3.1
Chem.-Qualitative Analysis	26	2.2	77	4.7	16	7.3	15	3.9
1, 2, 3 combined	86	7.2	246	15.0	20	9.1	45	11.6
Social Problems-Economics	102	8.4	121	7.4	18	8.2	30	7.8

Table 8F (con't.)

	Separate Two-Year (16-1209)*		Association (22-1, 635)		Four-Year Newer (5-220)		Four-Year Older (5-387)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Social Problems-Political Sci.	131	10.8	142	8.7	12	5.5	69	17.8
Social Problems-Sociology	59	4.9	17	1.0	0	0.0	21	5.4
5,6,7 combined	292	24.2	280	17.1	30	13.6	120	31.0
1, 2, 3, 5, 6, 7 combined	378	31.3	526	32.2	50	22.7	165	42.6

*Number of junior colleges represented and the total number of students in the sample.

One other evidence of vertical integration would be to determine the percentage of courses taken out-of-level. Taking a course out-of-level is interpreted to mean either a twelfth grade student taking a thirteenth grade class or the reverse. If the curriculum is to serve the needs of all students this would be a desirable feature in some instances. Table 21 below shows the percentage of twelfth grade students who are taking a course at thirteenth or higher grade level.

Table 8G

Percentages which registrations in academic and special courses at the junior college level by students in grade 12 are of the numbers of students represented in high school associated with junior colleges and in four-year colleges.

Group of Subjects	Associations		
	Separate Guidance Group (6-592)*	Combined Guidance Group (13-1,214)	Four-Year Junior Colleges (9-1, 070)
Academic	1.8	6.4	18.3
Special	0.5	2.2	21.0
All Subjects	2.3	8.6	39.3

*The numbers in parentheses are, respectively, the numbers of junior college situations represented and the numbers of students in Grade 12 (Grade 11 in Texas systems) included in the samples.

Table 8H shows the percent of courses taken at high school level by students in grade 13.

Table 8H

Percentages which registrations in academic and special courses at the high school level by students in the first college year are of the numbers of students represented in junior colleges associated with high schools and in four-year junior colleges.

Group of Subjects	ASSOCIATIONS		
	Separate Guidance Group (7-664)*	Combined Guidance Group (13-1, 126)	Four-Year Junior Colleges (9-1,021)
Academic	4.0	4.8	4.7
Special	0.3	9.4	12.6
All Subjects	4.3	14.2	17.3

*The numbers in parentheses are, respectively, the numbers of junior college situations represented and the numbers of first-year college students included in the samples.

Realization and Promise

The assessment of curriculum improvement so far achieved through instituting the four-year junior college plan discloses both reassuring gains and need for further effort. Most encouraging are certain four-year curriculums worked out with an approach to full awareness of needs and possibilities. Evidence of progress toward integration is found in a tendency toward smaller proportions of questionable and larger proportions of commendable sequences, indicating that the curriculum of the individual student through the four-year plan is more often viewed as a whole than as two separate curriculums. Still another evidence of integration is the greater frequency in the four-year units of students taking courses out of level; specifically, students in grade 12 taking courses at the college level and students in the first college year taking courses at the high school level. In numerous situations, these courses out of level are taken in class sections including students at both levels. These tendencies are accompanied by appropriate changes in certain externals of organization and administration, such as designating the classes beginning with grade 11 as freshman, sophomore, junior, and senior, or with the grade numbers 11, 12, 13, and 14; and using a common counter of credit, the semester hour, at both levels.

Most of the four-year units have much further to go in working out full integration. Most of them--perhaps all--should go much further in developing an adequate general education extending through the four years. Certainly this would be true if the report of the McConnell committee is used as a criterion. By the

same token, most of them could work out a better balance of recognition of the general and occupational or other special interests and needs of students. At the same time, progress has been commendable, considering the brief period over which these units have been in operation.

Contacts with associations and situations with separate two-year units bring to light no programs comparable with those used as illustrations of better developments in the four-year units, although instances of promising beginnings could be cited for some of the associations. However, with respect to integration as evidenced by proportions of questionable and commendable sequences and in the proportions of students taking courses out of level, the associations do not lag so far behind and in some instances are ahead of the four-year units. The separate units are seen to lag behind the associations in these respects. One may well believe that much more could be accomplished by energetic vertical co-operation that has been in the systems with associations and separate units, but it is no less apparent that the four-year unit is an important factor in facilitation and that in this regard the association has advantages over the situation with the separate two-year unit."

D. The Student: Guidance, Democratization, and Activities[2]

"This chapter brings together three kinds of evidence which have to do with student personnel and student activities.
(a) The first concern is the degree of relationship between guidance programs in high school and junior college years and its relative importance under the different patterns of organizations.
(b) The second concern is the influence of pattern on the extent of democratization of junior college education.
(c) The third has to do with the extent of continuity of membership in student activities under the different types of junior college organization and the influence of continuity on the educational significance of the activities.

Guidance relationship and type of junior college organization.

Information was collected from 60 local public junior colleges. Questionnaires were used which were followed by personal visits. The junior colleges represented the separate two-year, the associations, and the four-year. The guidance programs were separated into the following groups.

1. High school guidance and junior college programs entirely independent. These are represented as "entirely independent."
2. High school and junior college guidance programs separate but a voluntary cooperation existing. These are represented as "voluntary cooperation."
3. High school and junior college guidance programs are unified and coordinated. These are represented as "unified and coordinated."

Table 8I shows the number of junior college and high school guidance programs which fall into each of the above classifications.

Table 8I

Numbers and percentages of junior colleges of each type of organization with guidance programs (1) entirely independent of, (2) in voluntary cooperation with, and (3) unified and coordinated with guidance programs in high school years.

Type of Organization	1. Entirely Independent		2. Voluntary Cooperation		3. Unified and Coordinated		All	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Separate two-year	10	50.0	7	35.0	3	15.0	20	100.0
Association	6	21.4	16	57.1	6	21.4	28	99.9
Four-year	1	11.1	2	22.2	6	66.7	9	100.0
Total	17	29.8	25	43.9	15	26.3	57*	100.0

*All but 3 of the 60 local public junior colleges represented in this special investigation supplied information on the relationship of guidance programs at the two levels.

Table 8I shows quite clearly the "independent" guidance programs are predominant in the separate two-year junior college while the "unified" guidance programs are predominate for the four-year junior college.

The influence of pattern on the extent of democratization of junior college education.

The problems investigated: The issue dealing with problems of student personnel and activities is the influence of type of organization on the degree of democratization of the junior college level of education. It has long been contended--and the contention has had support of objective inquiry--that the junior college, more especially the institution under public auspices, achieves a greater democratization of the level than do other types of institutions. However, assurance on the point of democratization has been merely general and has not been sufficiently specific in several essential directions. A breakdown and further refinement of problems is now called for. In particular, while the public junior college increases the proportions of youth in attendance at the level represented, we know too little about (1) the comparative degrees of democratization with and without junior colleges, (2) the influence on democratization of the practice of charging tuition, and (3) the influence on democratization of the organizational pattern of the school system which includes the junior college. Also, in each of these three directions, for the light it will throw on desirable American policy, we need to know (4) in what degree junior college education is democratized for youth from the various socioeconomic levels of our society.

To be sure, chief interest here is in the third problem with such reinforcement of understanding on this score as may be contributed by the inquiry concerning the fourth and last. However, issues on the effect of the type of organization may not be clear without access to major inferences from the first and second problems, if for no other reason than the important one of knowing something about the comparative influences of proximity (through local units), a free-tuition policy, and type of organization.

Procedures used: The methods of investigation used are appropriate for the purpose in that they involve, in the main, a follow-up study of high school graduates of ascertained socio-economic status in school systems (1) without junior colleges and (2) with junior colleges operating as (a) tuition-charging and (b) tuition-free institutions in the three main patterns of organization, namely, two-year separate units, associations and four-year junior colleges. The chief measures used are the proportions of all graduates, of graduates of higher socioeconomic status, and of those of lower socioeconomic status who continued education at the college level in these different situations.

The number of high schools represented in the main investigation is sixty-one. The number of systems represented is four less, because four of them contain two high schools. Except for those without junior colleges, the systems are the same as those mainly

represented in other chapters of this book. The schools are located in twelve states of the Midwest, the South, and the Far West. The high schools in systems without junior colleges were chosen because they were in the same region as those with junior colleges and because they appeared to be large enough to warrant establishment of junior colleges. Those in systems with junior colleges were selected to represent both (1) tuition-charging and (2) tuition-free situations with different organizational patterns. Beyond this, the choice was determined by the known competence of the school heads to co-operate in such an investigation.

The total number of high-school graduates included in the follow-up was almost twelve thousand--11,932 to be exact. Of this number, 2,528 were graduates of high schools in systems without junior colleges, 3, 156 were graduates of high school in systems with tuition-charging junior colleges, and 6,248 were graduates of high schools in systems with tuition-free units. These numbers afford a base large enough to warrant the conclusions drawn, especially in view of the plan followed to safeguard representativeness.

Proximity and tuition policy as factors: Table 24 shows the influence of local junior colleges, tuition free and tuition charging, on the college education of students of low and high socioeconomic groups.

Table 8J

Percent of students of 1941 graduating classes that continued in college depending upon college facilities available locally and tuition charges.

Type of organization and tuition policy	All Graduates	Graduates in Higher Socio-economic Groups	Graduates in Lower Socio-economic Groups
Without junior colleges (12)*	19.7	38.7	10.8
With junior colleges(45)	48.4	60.7	39.1
With tuition-charging junior colleges (15)	31.8	48.9	19.7
With tuition-free junior colleges (30)	53.5	67.5	46.7

*Number of systems represented.

Some times a state system of regional junior colleges has been proposed. [1] The inquiry found the proportion of graduates of high schools in the communities of location of the state junior colleges to be about the same as the proportions from local high schools entering local public junior colleges, but that for high schools at any distance, even only seven to fifteen miles, from the state unit, the proportion drops off so sharply as to discredit proposals for systems of state, or regional, junior colleges made on the assumption that they will serve to democratize this educational level outside their communities of location.

1 Leonard V. Koos, "Local Versus Regional Junior Colleges," School Review, LII (November, 1944).

Continuity of membership in student organizations:

The particular phase of educational promise of student organizations and activities that is being considered here is the continuity of membership in them, meaning the number of years the individual student is a member of a given organization.

Table 8K

Numbers and percentages of student organizations in junior colleges of different types with memberships extending through 1 year, 2 years, 3 years and 4 years.

Type of Junior College	1 Year		2 Year		3 Year		4 Year	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Separate two-year (12)	..	..	21	80.8	3	11.5	2	7.7
Association (18)	..	..	28	62.2	4	8.9	13	28.9
Four-Year (8)	1	4.6	1	4.6	5	22.7	15	68.2

Of a total of 93 organizations in table 8K, 42 were in the field of music; 7 in dramatics; 4 in journalism. A large group of 34 were classified as social and religious. There were 3 womens leagues, 6 honor societies, 3 international relations, and 4 athletic organizations. In the separate junior colleges, bands and choirs accounted for the memberships of more than 2 years.

In conclusion it may be said that the argument from continuity of membership is emphatically with the four-year junior college. It is much less so with the associations than it might well be. Thus, all three portions of the chapter, namely, those concerned with guidance, with democratization, and with the phase of student organization reflected in continuity of membership, reveal superiority for the four-year junior college and there are some advantages for associations as compared with separate two-year junior colleges."

Table 8M

Distribution of instructors of academic subjects in junior colleges with enrollments under 200, according to the number of different subjects in their teaching assignments.

Number of Subjects	Separate Two-year (3)		Association (7)		Four-year (3)	
	Number	%	Number	%	Number	%
One	7	36.8	33	46.5	18	51.4
Two	6	31.6	18	25.4	10	28.6
Three	3	15.8	15	21.1	6	17.1
Four	2	10.5	5	7.0	1	2.9
Five	1	5.3	--	----	--	----
Totals	19	100.0	71	100.0	35	100.0

The Preparation of Instructors

The measures of preparation used here are (1) the highest degree held and (2) the extent in years of graduate residence. Evidence here is available for a total of 904 instructors in 41 systems. Of the 41 systems, 9 maintain separate two-year junior college, 22 operate associations and 10 maintain four-year junior colleges. Since California requires a masters degree for teaching at the secondary level it appears advisable to present the situation for California and for the rest of the systems outside of California.

Table 8N

Percentages of instructors of academic and special subjects at junior college and high school levels without degrees and with Bachelors', Master's and Doctor's as highest degrees. Systems represented are those with separate two-year junior colleges having enrollments of 500 or more (1) outside California and (2) in California (3) associations and (4) four-year junior colleges.

Group of Instructors and type of organization	Without Degrees	Bachelor's	Master's	Doctor's
Junior College				
Academic Teacher				
Separate two-year, 500 and over, outside of Calif. (79)	-----	6.3%	86.1	7.6
Separate two-year, 500 and over, in Calif. (40)		15.0	65.0	20.0
Association, in Calif. (110)		31.8	64.5	3.6
Four-year, in Calif. (239)	0.4	17.2	74.5	8.0
Special Teacher				
Separate two-year, 500 and over, outside Calif. (9)		44.4	55.5	
separate two-year, 500 and over, in Calif. (26)	15.4	46.2	38.5	
Association in Calif. (74)	13.5	58.1	27.0	1.4
Four-year, in Calif. (153)	20.3	43.8	35.9	

Group of Instructors and type of Organization	Without Degrees	Bachelor's	Master's	Doctors
gh School				
Academic Teacher				
Separate two-year, 500 and over, outside Calif.(121)	1.7	42.1	55.4	0.8
Separate two-year, 500 and over, in Calif. (53)		56.6	43.4	
Association in Calif. (126)		46.8	52.4	0.8
Four-year in Calif. (223)	0.9	22.9	72.6	3.6
Special Teacher				
Separate two-year, 500 and over, outside Calif.(20)	5.0	45.0	50.0	
Separate two-year, 500 and over, in Calif. (59)	16.9	67.8	13.6	
Association in Calif. (95)	12.6	68.4	18.9	
Four-year in Calif. (142)	21.1	48.6	30.3	

Significance for Organization

Analysis of teaching assignments finds much larger proportions of instructors in associations and four-year junior colleges than in separate two-year units teaching at both junior college and high school levels. This vertical spread of assignments fosters intimate articulation and integration of work at two levels, since one cannot imagine a more effective means of tie-up than having the same individual teach courses in the same field at those two levels. Such a practice affords a wholesome and refreshing contrast to the traditional attitude of disparagement by instructors who teach only at the upper level of what goes on in classes at the lower level and who, by taking this attitude, obstruct the possibilities of vertical integration.

Generalization from the evidence on the extent of preparation of teachers at junior college and high school levels as measured by highest degrees held and extent in years of graduate residence is a simple task. It may be said with assurance that, while the measures for instructors at the junior college level are not far from comparable, they are notably higher for instructors at the high school level in the associations and the four-year units than in high schools in systems with separate junior colleges, and they are even higher in the four-year units than in the associations."

F. Administration, Supervision and Costs[2]

Administrators and their Scope of Function

"Questionnaires to 51 junior colleges on the administrative organization followed by a visit by Dr. Koos shows the following integration through grades 11, 12, 13, and 14.

Table 80

Number and percentage of officers in Direct Administrative charge of 51 junior colleges who have responsibilities for junior college years only or for both junior college and high school years.

Type of Organization	Junior College years only		Junior College and High School years	
	Number	Percent	Number	Percent
Separate two-year	16	100.00		
Association	16	64.0	9	36.0
Four year			10	100.00

Not one administrator in the separate junior college has duties at the high school level. By contrast there is not an officer in the four-year units whose responsibilities do not extend over both high school and junior college years.

A study was made of the vertical integration of the responsibilities of other administrative personnel such as dean of women, dean of men, business manager, assistant principals, and directors of placement.

Table 8P

Numbers and percentages of administrators in addition to officers in direct charge of 167 local public junior colleges having responsibilities for junior college only and for junior college and high school years.

Type of Organization	Responsible for Junior College only		Responsible for Junior College and High School		Total	
	Number	Percent	Number	Percent	Number	Percent
Separate two-year (56)	159	98.1	3	1.9	162	100.00
Association (101)	142	66.9	70	33.0	212	99.9
Four-year (10)	4	10.8	33	89.2	37	100.00

There is an almost universal restriction of responsibilities of administrators in separate units to the two college years and a contrasting almost universal extension of scope of responsibilities in four-year units to include both high school and junior college.

Faculty, Departmental and Curriculum Planning:

To carry the study of integration still farther a study of current practices in faculty, departmental and curriculum planning was made. This is presented in Table 8Q.

Table 8Q

Supervisory Activity and type of organization	Separate only		Separate and joint		Joint only		Not Carried on	
	No.	%	No.	%	No.	%	No.	%
Faculty Meetings								
Separate two-year (15)	12	80.0	3	20.0				
Association (25)	5	20.0	16	64.0	4	16.0		
Four-year (9)			2	22.2	7	77.8		
Departmental Meetings								
Separate two-year	12	8.00					3	20.0
Association	5	20.0	6	24.0	7	28.0	7	28.0
Four-year					6	66.7	3	33.3
Curriculum Planning								
Separate two-year	11	73.3					4	26.7
Association	8	32.0	5	20.0	7	28.0	5	20.0
Four-year			1	11.1	6	66.7	2	22.2

Number and percentage of local public junior colleges of the different types of organization reporting certain supervisory activities as separate from high school only. Both separate from and joint with high school, joint only, and not carried on.

The junior colleges reported in the last column as not having departmental meetings are all small units. In such units the numbers of teachers is so small as to not warrant holding departmental meetings.

Conclusions

In the situation with separate two-year units, both administration and supervision are separate, while in four-year units they are unified. In the associations, administration and supervision reflect two divergent policies at work, one of separation, followed in a majority of situations, which makes for practices not unlike those of separate junior colleges, and the other of integration, which yields conditions approaching those found typical of four-year units.

Costs

The measures used in cost of administration comparisons were (1) cost of student per year in (a) junior college (b) in high school and (2) ratio of junior colleges to high school cost of administration. Main reliance is

placed on ratio of costs instead of actual costs because of the wide variation of salaries from state to state and from one junior college to another. In the case of the association the costs vary with the extent of association. In many separate units, the junior college cost of administration was very high compared to the high school in the same community. The median ratios for the three types of organization are: for separate two-year junior college 2.48: 1; for associations 1.99: 1 and for the four-year unit 1 : 1.

In actual figures the cost of administration of separate junior colleges varied from $11.82 to $21.71 per student. In four-year units the cost varied from $4.74 to $15.82.

The administrative cost is a small part of the total cost per student. An attempt was made to arrange the 22 junior colleges of California of all three types in a decending cost per student arrangement we find that the 11 junior colleges with the lowest cost per student had an average daily attendance of 401 while the 11 with the highest cost had an average daily attendance of 187. Disconcerting to persons who believe type of organization to be the controlling factor in cost is the fact that Pomona and Ventura both four-year units are found in the center of the descending cost per student arrangement. A few separate junior colleges are found at the bottom of the list of cost array and the junior colleges in the associations are scattered throughout the list. In the absence of definite and comprehensive cost comparison, the discussion may well turn to a partially speculative and partially objective consideration of influences on, or factors of, cost of junior college education per student per year.

(1) The significant influence of size of enrollment, average daily attendance was previously discussed.
(2) Region (or state, or even locality within a state) may be highly influential on costs, in that outlays and resources for education are much lower in some places than others and include lower salaries for instructors, lower cost of operation.
(3) The nature of the program made available would also effect costs. For example, a restricted academic program would ordinarily be less expensive than an enriched program of wide variety.
(4) A potential factor might be the more extended preparation of instructors found in grades 11 and 12 in the four-year units. The teachers must be prepared for the higher teaching level of grades 13 and 14 but are also assigned to grades 11 and 12. In California this is somewhat counterbalanced by the masters degree requirement for high school instruction.
(5) The financial advantage of dual assignment of administrative personnel in the four-year unit has been discussed.
(6) Other things being equal there should be a saving in the dual use of special rooms and equipment.

The last two factors appear to be the only ones that are directly by type of organization.*

"The final aspect of this comparison of different patterns of organization of schools, including junior college years is that concerning material facilities used. The first material presented will be that for general and special facilities and the second will be that for libraries.

Under the heading "general" were placed the offices, cafeterias or lunchrooms, auditorium and stage when not combined with the gymnasium. Special classrooms included art, music, bookkeeping, typing, homemaking, public speaking, English, mathematics, foreign language, band, chorus, etc.

Laboratories and shops include general laboratories for chemistry, organic and qualitative and quantative; laboratories for biology, botany, physics, radio; lecture rooms for chemistry, physics; shops for printing, drawing, woodworking, metal working, welding and machine work. Provisions for physical education include mens gymnasium, womens gymnasium, showers and locker rooms for each, football fields, baseball fields, tracks and swimming pools.

The average number of general and specialized facilities in use in the different types of junior colleges grouped according to size of enrollment is shown in Table 8S.

Table 8S

Average number of general and specialized facilities in use in junior colleges of different enrollments and types.

Group and Facilities	Less than 200			200 - 499			500 and over		
	Separate Two-Year	Association	Four Year	Separate Two-Year	Association	Four Year	Separate Two-Year	Association	Four Year
General	9.0	11.8	13.7	12.5	13.0	12.8	16.0	18.0	20.0
Special Classrooms	6.0	8.3	10.3	7.8	10.0	10.8	11.4	14.0	15.3
Laboratories and Shops	7.3	8.5	9.7	9.0	11.7	10.5	13.6	16.0	19.3
Physical Education and Athletics	8.3	11.8	13.3	11.3	14.4	13.8	17.2	16.7	19.3
All Facilities	30.7	40.3	47.0	40.5	49.1	48.8	58.2	64.7	74.0

The bottom row of figures shows that the associations have about 1/3 more facilities than the separate two-year and the four-year units have 1/2 more facilities than the separate two-year units.

One other factor in use of facilities is the percentage of the facilities of various kinds which are used by both the high school and the junior college students.

Table 8R

Percentages of general and specialized facilities used by junior colleges of different enrollments and types which were in use for junior college classes only and for classes in both junior college and high school.

Group of Facilities	Enrollment Less than 200			Enrollment 200 - 499			Enrollment 500 and over		
	Two Year	Associ-ation	Four Year	Two Year	Associ-ation	Four Year	Two Year	Associ-ation	Four Year
General Jr. College Only	92.6	38.3	0.0	100.0	31.4	7.9	100.0	55.6	0.0
Combined use	7.4	61.7	100.0	0.0	68.6	92.1	0.0	44.4	100.0
Special Rooms Jr. College only	100.0	10.6	3.2	100.0	28.5	2.3	99.0	30.9	0.0
Combined use	0.0	89.4	96.8	0.0	71.5	97.7	1.0	69.1	100.0
Laboratories and shops Jr. College only	90.9	13.2	3.4	88.9	19.8	15.2	97.5	35.4	12.1
Combined use	9.1	86.8	96.6	11.1	80.9	84.8	2.5	64.6	87.9
Physical Ed. and Athletics Jr. College only	56.0	4.3	0.0	46.7	5.9	1.8	72.9	6.0	0.0
Combined use	44.0	95.1	100.0	53.3	94.1	98.2	27.1	94.0	100.0
All Facilities Jr. College only	83.7	17.4	1.4	82.7	20.4	6.7	91.2	32.5	3.2
Combined use	16.3	82.6	98.6	17.3	79.6	93.3	8.8	67.5	96.8

Probably the important conclusion to be drawn here is that shown by the bottom group of figures. In the separate units 83.7% of the facilities is used only by the junior college while 16.3% are used by both junior college and high school. If we look above in the first column we see that the combined use of physical education and athletic facilities is the only combined use of facilities to any noticeable extent. In the association the figures are almost exactly reversed. While in the four year units the facilities are used almost 100% by both junior college and high school.

Libraries

To make a complete study of libraries we would be interested in such matters as space, staff, collections, service and budget. The information was collected by questionnaire and by interview at the time of visits to the institution. Probably table 8T will show the trend as far as type of organization is concerned.

Table 8T

Number of junior colleges with each type of organization, numbers with separate and joint libraries, different and same head librarian, and separate and joint collections for junior college and high school libraries.

Type of organization	Number of Jr. Colleges	Libraries		Head Librarians		Collections	
		Separate	Joint	Different	Same	Separate	Joint
Separate Two-Year	13	13		13		13	
Association	24	7	17	5	19	9	15
Four-Year	10		10		10		10

The reading rooms were separate in the separate two-year and combined in the association and four-year institutions.

The budgets were likewise separate in the separate two-year and combined in the association and the four-year. There should be some saving in capital outlay and operating costs in the association and the four-year units due to the combined use of all facilities."

H. Preferences and Opinions of Administrators[2]

"The preferences and opinions of administrators were not collected by a check off list of preferences or opinions. This might suggest preferences or opinions. Rather these preferences and opinions were collected by personal interview. The material collected in this manner is much more difficult to tabulate but certainly is much more sincere. A total of 54 junior college situations were visited with a total of 103 administrators interviewed.

Table 8U

Number and percentage of administrators in 54 Junior Colleges preferring separate two-year, associations or four-year units.

Junior College Organization	Number of Junior Colleges	Administrators in Each Type of Unit: Separate Two-year		Association		Four-year		Uncertain		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Separate two-year	17	18	51.4	--	----	16	45.7	1	2.9	35	100
Association	26	8	16.0	9	18.0	28	56.0	5	10.0	50	100
Four-year	11	1	5.6	--	----	17	94.4	--	----	18	100

The preference of administrators can be summarized as follows:

1. In presenting the reasons for preferring the 6-4-4 plan, administrators concentrated on improvement through continuity and enrichment of the whole program including curriculum, and guidance, and the advantages financial and other, of the cooperative use of staff.

2. With administrators favorable to association, concentration was on reasons similar to those put forward for the 6-4-4 plan except that there was a partial reversal of emphasis; friends of the association laid stress more than friends of the 6-4-4 plan on the advantages of cooperative use of facilities and staff and less on improvement through continuity and enrichment of program.

3. By contrast the administrators preferring the separate two-year plan concentrated on the desirability of creating a college atmosphere believing that it was conducive to a level of performance and behavior in keeping with college tradition."

Summary

Probably the best summary to the advantages of the 6-4-4 plan of organization is given by Jesse Bogue in The Community College[5] which is a summarization of the principles as set forth by Sexson and Harbeson in The New American College.[6]

1. The freshmen and sophomore college years are a logical part of the secondary school system, rather than of the standard college or university.

2. Being secondary in character, these years should be closely articulated with the rest of the secondary system.

3. The most efficient and economical articulation is the union of these years with the eleventh and twelfth grades as a single four-year institution, for the following reasons:

   a. Practically all students in the eleventh grade and above are in the upper adolescent period, thus giving social and psychological homogeneity to the student body.

   b. With the proper orientation and adjustment program in the eleventh grade, the upper classes (including the twelfth grade) can be held to a standard of accomplishment in no way inferior to that maintained in the traditional freshmen and sophomore college years.

   c. The junior college organized as a 6-4-4 plan requires one less school plant for the community than when it organized as a 6-3-3-2 unit with junior college as an isolated unit.

   d. The junior college organized as a 6-4-4 unit results in a more integrated educational program and in a more unified and efficient administrative machinery than when it is organized as a separate two-year unit and housed in the same plant with a separately organized high school.

   e. Curricula worked out over a continuous four year period more readily facilitates the elimination of duplication and overlapping of subject matter than when these curricula are organized as two separate and distinct units.

f. Terminal curricula in particular, when begun in the twelfth grade, result in an earlier and more definite arrangement of subject matter to meet the objectives sought, as well as a wiser selection of liberal offerings than can be possible when but two years are provided for the organization of these curricula.

g. A diploma granted at the conclusion of a four year course carried greater weight and dignity than one granted at the conclusion of a two year period.

h. School traditions and school spirit are more easily developed and maintained in a four year institution than in a two year one in which the school opens each year with the majority of students who have never been in the institution before.

i. A guidance program can be more easily organized and administered over a four-year period than over a two year one.

j. The four year junior college gives, even in the smaller communities, a student body of adequate size for efficient student classification.

4. The junior college as the topmost unit of the public school system must be neither traditionally college nor high school, but must develop a character and an individuality of its own, with methods and policies adapted to the ages with which it works.

5. The four year junior college is an institution of sufficient size and span to be a complete unit in itself. It is not a fractional part of a standard college transplanted from its native habitat into the local community.

6. The twelfth grade is not a logical stopping place, inasmuch, as it falls two years short of the completion of the secondary span.

7. The assumption of full responsibility of general or secondary education by the local community will give the university full and untrammeled freedom to concentrate on its proper sphere of specialization, research, and professional training.

Chapter IX

THE FUNCTIONS OF THE COMMUNITY COLLEGE

The community college if it is to meet the needs of the people must perform the following functions:

A. Provide pre-professional training for those who wish to transfer to the senior college or university.

B. Provide semi-professional or terminal education for those who will complete their education at the end of the fourteenth grade.

C. Provide general education for both the pre-professional and the terminal group.

D. Provide adult education for those persons who desire additional education.

The four functions are well described by the presidents commission on "Higher Education for American Democracy"[4], and by Jesse Bogue in "The Community College"[5] as well by John Sexon and John Harbeson in "The New American College"[6].

A. The Community College[4]

As one means of achieving the expansion of educational opportunity and the diversification of educational offerings it considers necessary, this Commission recommends that the number of community colleges be increased and that their activities be multiplied.

Community Colleges in the future may be either publicly or privately controlled and supported, but most of them, obviously, will be under public auspices. They will be mainly local or regional in scope and should be locally controlled, though they should be carefully planned to fit into a comprehensive State-wide system of higher education. They will derive much of their support from the local community supplemented by aid from State funds.

Some community colleges may offer a full four year of college work but most of them probably will stop at the end of the fourteenth grade, the sophomore year of the traditional college. In the latter case they should be closely articulated with the high school.

Whatever form the community college takes, its purpose is educational service to the entire community, and this purpose requires of it a variety of functions and programs. It will provide college education for the youth of the community certainly, so as to remove geographic and economic barriers to educational opportunity and discover and develop individual talents at low cost and easy access. But in addition, the community college will serve as an active center of adult education. It will attempt to meet the total post-high school needs of its community.

B. Terminal and Semi-professional Education$_4$

In the past the junior college has most commonly sought to provide within the local community the freshman and sophomore courses of the traditional college curriculum. With notable exceptions, it has concentrated on preparing students for further study in the junior and senior years of liberal arts colleges or professional schools.

But preparatory programs looking to the more advanced courses of the senior college are not complete and rounded in themselves, and they usually do not serve well the purpose of those who must terminate their schooling at the end of the fourteenth grade. Half the young people who go to college find themselves unable to complete the full 4-year course, and for a long time to come more students will end their formal education in the junior college years than will prolong it into the senior college. These 2-year graduates would gain more from a terminal program planned specifically to meet their needs than from the first half of a 4-year curriculum.

For this reason, the Commission recommends that the community college emphasize programs at terminal education.

These terminal programs should include both general education and vocational training. They should be designed both for young people who wnat to secure as good a general education as possible by the end of the fourteenth grade and for those who wish to fit themselves for semi-professional occupations.

Semi-professional training, properly conceived and organized, can make a significant contribution to education for society's occupational requirements. In not providing this sort of training anywhere in existing programs, the educational system is out of step with the demands of the twentieth century American economy.

There is a new and rapidly growing need for trained semi-professional workers in these distributive and service occupations. To meet the needs of the economy our schools must train many more young people for employment as medical secretaries, recreational leaders, hotel and restaurant managers, aviators, salesmen in fields like life insurance and real estate, photographers, automotive and electrical technicians, and so on through a long list of positions in the business and professional world.

Education on the technician level--that is, the training of medical technicians, dental hygienists, nurses' aides, laboratory technicians--offers one practical solution for the acute shortage of professional personnel in medicine, dentistry, and nursing. An adequate staff of well-trained assistants can substantially increase the number of patients one doctor, dentist, or nurse can handle.

For these semi-professional occupations a full 4 years of college training is not necessary. It is estimated that in many fields of work there are five jobs requiring 2 years of college preparation for every one that requires 4 years. Training for these more numerous jobs is the kind the community college should provide.

If the semi-professional curriculum is to accomplish its purpose however, it must not be crowded with vocational and technical courses to the exclusion of general education. It must aim at developing a combination of social understanding and technical competence. Semi-professional education should mix a goodly amount of general education for personal and social development with technical education that is intensive, accurate, and comprehensive enough to give the student command of marketable abilities.

C. General Education

1. The Need for General Education[4]

Present college programs are not contributing adequately to the quality of students' adult lives either as workers or as citizens. This is true in large part because the unity of liberal education has been splintered by overspecialization.

For half a century and more the curriculum of the liberal arts college has been expanding and disintegrating to an astounding degree. The number of courses has so multiplied that no student could take all of them, or even a majority of them, in a lifetime.

This tendency to diversify the content of what was once an integrated liberal education is in part the consequence of the expansion of the boundaries of knowledge. New advances in every direction have added more and more subjects to the liberal arts curriculum and have at the same time limited the area of knowledge a single course could cover. This development is at once the parent and the child of specialization.

Specialization is a hallmark of our society, and its advantages to mankind have been remarkable. But in the educational program it has become a source both of strength and of weakness. Filtering downward from the graduate and professional school levels, it has taken over the undergraduate years, too, and in the more extreme instances it has made of the liberal arts college little more than another vocational school, in which the aim of teaching is almost exclusively preparation for advanced study in one or another specialty.

The trend toward specialization has been reinforced by the movement toward democratization of higher education. The young people appearing in growing numbers on college campuses have brought with them widely diverse purposes, interests, capacities, and academic backgrounds. Some expect to enter one of the old-line professions; others want training in one of the numerous branches of agriculture, industry or commerce. Some consider college education a natural sequel to high school; others seek it as a road to higher social status.

The net result of the situation is that the college student is faced with a bewildering array of intensive courses from which to make up his individual program. To secure a reasonably comprehensive grasp of his major field, he must in some cases spend as much as half or more of his time in that one department. The other half he scatters among courses in other departments which, designed for future specialists in those fields, are so restricted in scope that the student can gain from them only a fragmentary view of the subject. He, therefore, leaves college unacquainted with some of the fundamental areas of human knowledge and without the integrated view of human experience that is essential both for personal balance and for social wisdom.

2. The Purposes of General Education[4]

The purposes of general education should be understood in terms of performance, of behavior, not in terms of mastering particular bodies of knowledge. It is the task of general education to provide the kinds of learning and experience that will enable the student to attain certain basic outcomes, among them the following:

1. To develop for the regulation of one's personal and civic life a code of behavior based on ethical principles consistent with democratic ideals.

2. To participate actively as an informed and responsible citizen in solving the social, economic, and political problems of one's community, State, and Nation.

3. To recognize the interdependence of the different peoples of the world and one's personal responsibility for fostering international understanding and peace.

4. To understand the common phenomena in one's physical environment, to apply habits of scientific thought to both personal and civic problems, and to appreciate the implications of scientific discoveries for human welfare.

5. To understand the ideas of others and to express one's own effectively.

6. To attain a satisfactory emotional and social adjustment.

7. To maintain and improve his own health and to cooperate actively and intelligently in solving community health problems.

8. To understand and enjoy literature, art, music, and other cultural activities as expressions of personal and social experience, and to participate to some extent in some form of creative activity.

9. To acquire the knowledge and attitudes basic to a satisfying family life.

10. To choose a socially useful and personally satisfying vocation that will permit one to use to the full his particular interests and abilities.

11. To acquire and use the skills and habits involved in critical and constructive thinking.

General education, therefore will concentrate, not on the mastery of specific information, but on the fullest possible development of the motives, attitudes, and habits that will enable the student to inform himself and think for himself throughout life. It will stress (1) the importance of being informed, of basing decisions, actions, and opinions on accurate facts; (2) knowledge of where and how to acquire information and (3) ability to appraise, relate, and integrate facts in order to form valid judgments. The habit of making this approach to any situatio can best be developed by leading the student to apply it at every opportunity in his life on the campus, in solving problems both inside and outside the classroom.

3. Methods of General Education[4]

The objectives of general education are not to be achieved by prescribing any single pattern of courses for all students. Seeking to gain common goals for all, general education nonetheless approaches these goals through different avenues of subject matter and experience. These avenues must be as numerous and varied as the wide differences among students.

Established courses in the sciences, social studies, and humanities can contribute to the ends of general education, but if they are to do so they must be explicitly planned and taught with that purpose in mind.

This does not mean that existing courses designed for future majors and specialists are to be diluted for the general student. General education is not elementary or superficial education. It is no easier than specialized education; it should require no less of the student. The real difference between special and general education lies in orientation and purpose; the function of general education is not to develop the learned man or the professional technician but to provide the basis for intelligent living regardless of the type of life the individual may chance to have or the circumstances that surround it.

4. Patterns of General Education[1]

Typical Approaches to General Education

a. Great-Books Approach:

This approach is advocated by Hutchins and is used at St. Johns College, Maryland. Although Hutchins and his followers contend that "General Education is for everyone" the type of student for whom the great-books approach seems best fitted is the student of superior academic ability. It is with this intellectual aristocracy in mind that Benjamin Fine refers to the great-books school of education as the "aristocratic wing".

b. Liberal Arts:

The proponents of the liberal arts approach believe that each of the major disciplines (mathematics, the natural sciences, the social studies, and the humanities) has an essential contribution to make.

The supporters of the liberal arts approach believe that providing the student with a sampling of knowledge and with an understanding of methods of work in the various fields of learning will develop insights, attitudes, habits, and skills which he will utilize in making decisions and in carrying on the activities of daily living.

c. Survey Fields of Knowledge:

In contrast to the "sampling in isolated courses" advocated by the liberal arts approach is the "survey-of-fields-of-knowledge" approach to education. Educators who are proponents of the approach believe that the survey approach encourages students to see the relationship between fields of learning and provides them with a foundation on which to develop the understandings and insights essential to everyday living. This approach is used at Pasadena City College and The University of Chicago. See page 8E.

d. Individual Program:

A fourth approach to general education is the individualized approach of the so called "progressive colleges". Supporters of the individualized approach assert that the goal of general education preparation for common life can best be attained when students work on materials and problems which they individually accept as significant. The individualized approach is used in a few private colleges - Bennington, Bard, and Sarah Lawrence.

e. Functional Subject Matter:

Proponents of this approach point out that findings of psychology and subjective observation of intelligent persons unite in agreeing that automatic transfer of training does not take place. With this in mind they aim to find the life-needs of the student and of society in which he will live and then plan a program of instruction designed specifically to meet these needs. The resulting courses are marriage and the family, citizenship, communications, philosophy of life, community health and consumer problems. Such programs are used at Stevens College and the general college of the University of Minnesota.

5. Interrelationship of General and Vocational Education[4]

Although general education, as the term is currently used, is concerned with the nonspecialized activities of living, it is by no means antagonistic to vocational education. Rightly conceived, the two are complementary. General education should contribute to the vocational competence by providing the breadth of view and perspective that make the individual a more effective worker and a more intelligent member of a society of free men.

The ends of democratic education in the United States will not be adequately served until we achieve a unification of our educational objectives and processes. American education must be so organized and conducted that it will provide, at appropriate levels, proper combinations of general and special education for students of varying abilities and occupational objectives.

Our purpose, then, is to raise general education to a position of equal dignity and importance with vocational and professional education -- to develop a program combining the two kinds of education in suitable proportions and making them interdependent.

6. Vocational Values of General Education[4]

The complexity of modern technological society demands a high degree of social and economic intelligence on the part of workers in all fields. We have great need of mutually productive and cooperative human relationships among all the groups that share the responsibilities and benefits of economic enterprise.

General education is not alien to the needs of the worker; a review of its objectives demonstrates that clearly enough. A good general education serves to develop those traits of character and personality that are required for success in any occupation. To have some insight into the values and standards that men have found good in governing their lives, to be able to define problems and bring to their solution the habits of critical thinking, to be able to communicate ideas clearly, to possess the ability to deal with people in a friendly and considerate manner--these, more commonly than we think, perhaps, are the elements of vocational competence. And these are among the qualities of mind that general education is designed to develop.

D. Community Center of Learning - Adult Education[4]

Post-high school education for youth is only one of the functions to be performed by the community college. One such college has been known to have a daytime junior college enrollment of 3,000 but an adult enrollment in the late afternoon and evening of 25,000.

The community college seeks to become a center of learning for the entire community, with or without the restrictions that surround formal course work in traditional institutions of higher education. It gears its programs and services to the needs and wishes of the people it serves, and its offerings may range from workshops in painting or singing or play writing for fun to refresher courses in journalism or child psychology.

If the health of the community can be improved by teaching restaurant managers something about the bacteriology of food, the community college sets up such a course and seeks to enroll as many of those employed in food service as it can muster. If the community happens to be a center for travelers from Latin America, the college provides classes in Spanish for salespeople, waitresses, bellboys, and taxicab drivers.

The potential effects of the community college in keeping intellectual curiosity alive in out-of-school citizens, of stimulating their zest for learning, of improving the quality of their lives as individuals and as citizens are limited only by the vision, the energy, and the ingenuity of the college staff--and by the size of the college budget. But the people will take care of the budget if the staff provides them with vital and worthwhile educational services.

1. Pasadena City College Program[5]

For the successful performance of the adult education function, the junior college should become the center of the educational and cultural life of the community. This functions rests upon the philosophy that education is a life long process, extending from birth to death and the time will never come in the course of one's life time when he can say that his education is complete.

To facilitate the process of life long learning, the four-year junior college is in a strategic position. As the top most unit of the public school system, it is the logical organization to assume the responsibility for adult education. The organization of an evening high school or school of adult education unnecessarily complicates the machinery of public education. In fact, the traditional distinction between regular and adult education should be abandoned. Adult persons who are free during the regular day should be permitted to enroll in any day classes they desire. Adolescent students might find it more desirable to enroll in late afternoon or evening classes. What is needed is not a separate school of late afternoon and evening classes but an extended day for junior college- a day extending from 8:00 A.M. to 10:00 P.M. - chock-full of rich educational offerings for the entire community, without regard to age or walk of life.

2. National University Extension

In May, 1948, at the National University Extension Meeting in Chicago, (5) the purposes of adult education in the university were stated in harmony with the newer concepts.

Modern society is too complex for adults to depend upon random experiences of daily life as their chief sources of learning. New knowledge, skills and understandings are developing so rapidly that elementary and secondary education, even if it were well done would be inadequate for adult living.

The preservation of free society depends not upon formal education of schools and colleges alone, but upon continuous life long and somewhat systematic learning of the great masses of the people in a wide range of studies. The great concentration of knowledges, skills, and understandings of the combined faculties of all the colleges and u universities are the rightful possession of the people of the state that should be taken to them.

3. The Methods of Adult Education[5]

"Whether adult education is to be provided in community colleges or in any other form of organization, it is of primary importance that adults will attend and continue only if they are interested and properly motivated. They do not have to attend in the first place, and the second, they do not have to continue. It becomes necessary, therefore, to build the programs of study around the voluntary and expressed interests of adults themselves.

Studies in primary and secondary schools are quite largely prescribed; colleges and universities announce what they will offer. The community college should find out what the people are interested in and allow them to decide freely what they wish to study. If there is one principle in successful adult education programs that should be kept in mind at all times, it is that of freedom. The first application of the principle is in respect to the interests of the adults themselves. It is not for the schools and colleges to attempt to give to the people what the schools and colleges think they ought to have; it is for the people to decide for themselves what they want. They should be encouraged not only to initiate by voluntary expression the fields of study but also they should be given an opportunity to participate to the fullest possible extent in plans and control of programs in cooperation with educational agencies.

The method of instruction might be termed non-directive. It is not easy to achieve, and there are teachers who are totally incapable of following it. It has been found in many community colleges, that some of the best instructors of adult education were never trained as professional teachers at all. These instructors have been recruited from various walks of life in which practical approaches are essential in finding solutions to concrete problems; in which the give and take of free discussion, the hammer and anvil method for shaping hot metal and contending forces seem to work against each other and yet really cooperate to attain desired shape and pattern. The instructor in this process becomes a director, a moderator, an inspirer, a friend and a guide.

Adult education is one of the most recent functions of the community college. By the very reason of the philosophy for the further democratization of education, the function is inescapable for the colleges which profess to serve the entire community. It is basic to the essential progress of society itself and rests on the same fundamental assumptions that are necessary for "democratic citizenship, sound individualism and humanism."

4. In Relation to the Liberal Arts College[4]

The Commission does not intend to suggest that the expansion of educational opportunity at the freshman-sophomore level should be limited to the community college. Part of the needed expansion can be achieved through existing 4-year colleges, part of it through the lower divisions of the universities.

Some of the established colleges may wish to institute terminal curriculums and contribute to the development of semi-professional training. Others will prefer to concentrate on general education for students who plan to complete a 4-year course. Still others, especially the liberal arts colleges or universities, may welcome the opportunity to focus their energies on senior college programs.

In any case, the liberal arts college is so well established in the American educational tradition that it need not fear community colleges will weaken its own appeal. It should encourage the development of the community college, not oppose it. Experience indicates that these community institutions awaken intellectual curiosity and ambition in many youth who would not otherwise seek college education at all, and in many cases these students will be stimulated to continue their college careers if the 4-year colleges will meet them halfway with liberal admission policies.

There is little danger of lowered standards in this. We know now that ability to complete successfully the work of the last two years of college depends more upon the quality of mind and the mental habits a student brings to his work than upon the nature of the subject matter he has already covered. There is no reason to believe that community colleges, if they are adequately staffed, cannot do as good a job as the lower divisions of 4-year colleges in preparing students for advanced work in liberal and professional education.

While it favors the growth of community colleges, the Commission emphasizes that they must be soundly established with respect to financial support and student attendance. This calls for careful planning on a state-wide basis in determining location of the colleges and the curriculums to be offered. Simply to create more small, inadequately financed institutions would only retard the development of a sound program of post-high school education.

Chapter X

The Performance of Junior Colleges in the Four Functions

A. The Effect of Tuition on Enrollment

"Referring to Map 10A we have the public junior colleges throughout the United States in which no tuition is charged to resident students. The map shows 93 public junior colleges located in 18 states. In almost two-fifths of the public junior colleges, tuition is free. These two-fifths of the public institutions, however, enroll today more than two-thirds of the students in public junior colleges.

California often has been referred to as the state with free junior college tuition to residents of the state and with the most significant development of junior college terminal curricula. The growth has been remarkable in enrollment for both regular students of junior college age and of adults of the community. California with one-twentieth of the population of the nation, has more than one-third of the total junior college enrollment and almost one-half of the public junior college enrollment."

Since California has tuition free public junior colleges it could be readily seen that students might attend the most convenient one or the one offering the program best suited to the students needs.

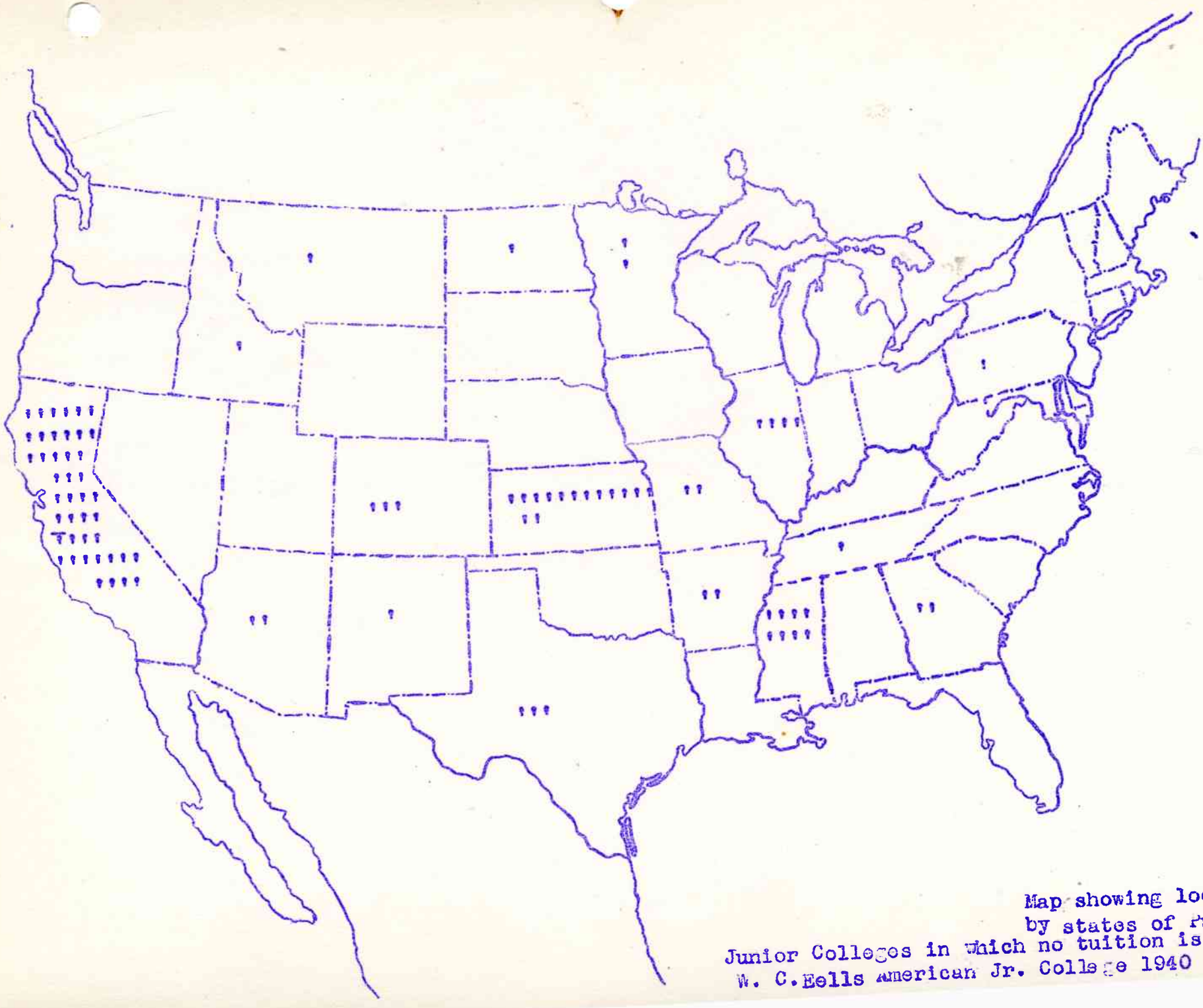
The enrollment information in "American Junior Colleges" 1948 edition indicates the following high school and junior college enrollments for the 6-4-4 units in California.

California Junior College Enrollments
in 6-4-4 Plans for 1948

	Grades 11 & 12	Grades 13	14	College Preparatory	Semi-professional or Terminal
Compton College	2290	2839	507	2506	996
Pasadena City College	2454	2366	959	1158	4631
Napa Junior College	454	135	84	23	196
Vallejo College	957	388	146	534	1097

Chart 10B

In these enrollments there are undoubtedly many transfer students as in the case of Pasadena. It is a well known fact that the terminal or semi-professional curricula is well developed at Pasadena and since these colleges are tuition free it is to be expected that the enrollment in the junior college would be a



Map showing location by states of Public Junior Colleges in which no tuition is charged.
W. C. Eells American Jr. College 1940

larger percentage of the high school enrollment than for the state as a whole. Under a tuition free system it is easily understood that the junior college enrollment might exceed the high school one as is the case with all except Napa.

B. The Growth of Enrollment in Semi-professional or Terminal Education

First let us refer to the Pasadena City College to see what has happened to the enrollment in college prepafatory and Terminal Education. The information is from W. C. Ells Present Status of Terminal Education American Association of Junior Colleges 194111 and is shown in graph 10C. The terminal education enrollment in 1926 was about 4% of the total and it has grown rapidly until 1950 the terminal enrollment is 74% of the total.

The success of the junior college terminal or semi-professional educational program probably can largely be attributed to a good workable guidance program. Briefly the program, as described by Dr. Weitzel, 5, "in addition to providing suitable space and a comprehensive curriculum, is in using the interests, aptitudes and abilities of the student and building a students program of education which is in keeping with employment opportunities.

The feature of the guidance program that has most to do with placing students in terminal curricula is the first interview which every student has with his counselor. The parent, the student and the counselor participate in the interview. The educational record of the student must be available, also.

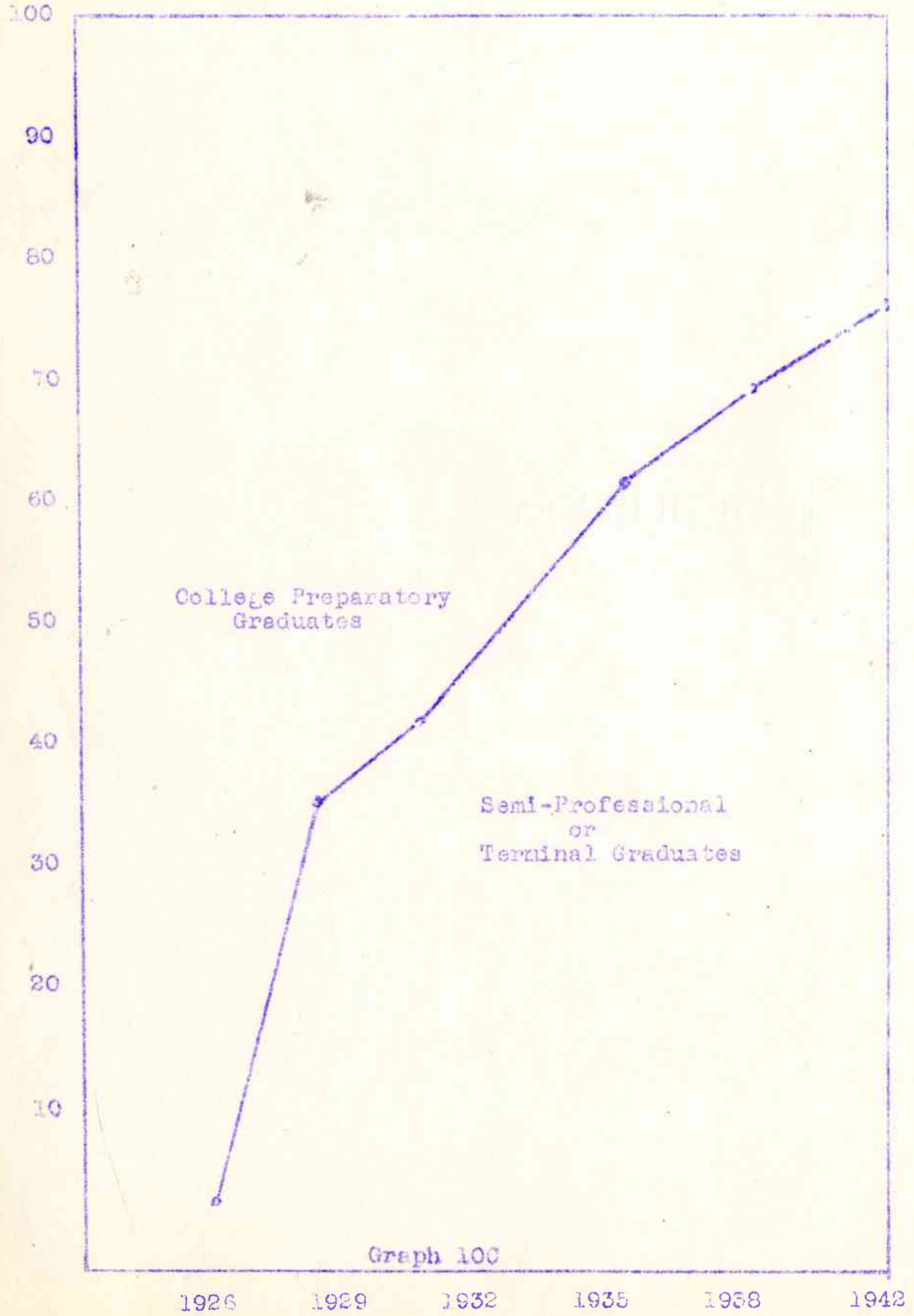
One merely has to point out the "amounts" and kinds of intelligence necessary for success in the semi-professions as opposed to the strictly professional fields, the recommended high school patterns of subjects involved, the quality of high school work and later college work demanded, the opportunities for employment after graduation, the length of the course, the cost of different training programs, opportunity to "work one's way through school" and then leave the final decision to the common sense of the student and parents.

C. Survival of Junior College Students

One of the tests to determine how well Junior Colleges are meeting the needs of the students is to determine how many are completing their Junior College Training.[11]

The Terminal Study 5 of the American Association of Junior Colleges reported a study (3) covering 57,000 students who entered these institutions as freshmen at the beginning of the 1937-38 college year.

Distribution of Pasadena Junior College Graduates between College Preparatory and Semi-Professional Courses.



Graph 100

Survival of 57,826 Junior College Students in 392 Junior Colleges.

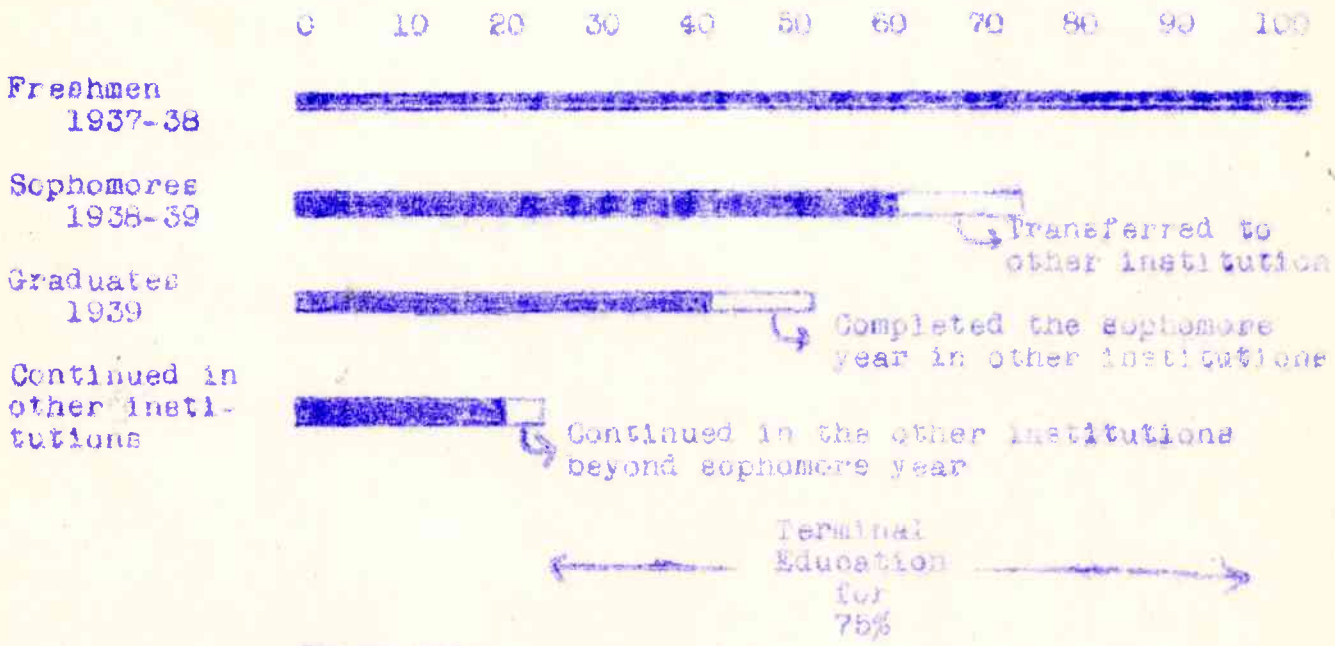

0 10 20 30 40 50 60 70 80 90 100
Freshmen 1937-38
Sophomores 1938-39
Transferred to other institution
Graduates 1939
Completed the sophomore year in other institutions
Continued in other institutions
Continued in the other institutions beyond sophomore year
Terminal Education for 75%

Chart 10D

This chart summarizes the education history of 100 typical junior college freshmen. Of the 100, 60 completed the freshmen year and returned to the same junior college as sophomores while 15 transferred to other institutions. Of the 75 sophomores, 50 completed their sophomore year (40 in their original junior college and 10 in other institutions). Of the graduates (20 from their original junior college and 5 from other institutions) continued their education after their sophomore year.

One important conclusion is that junior college education was terminal education for 75 out of each 100 entering freshmen. The students were terminal. The next question is was their education designed to fit their needs and therefore terminal or semiprofessional. In some junior colleges such as Pasadena the program is planned as a terminal occupational training program for as many as 75% of the students. In many other junior colleges including many in Michigan the student takes a portion of the college preparatory program that is offered and then adapts it to his own terminal needs as best he can.

D. Michigan Junior Colleges[8]

An examination of chart 10E reveals how well most Michigan Junior Colleges are meeting the needs of the youth
First: Junior colleges as a group retain 60% of their freshmen enrollment as sophomores. Michigan Junior Colleges retain 32.5% of their freshmen as sophomores. Probably there are two reasons for this difference. One is that the terminal education program is not well developed in Michigan Junior Colleges and as a result

the student who enters as a freshmen does not find a course adapted to his needs. After one year the student drops out to take whatever job his training will permit. The other reason, which involves the college preparatory group, is that the first two years of 4 year colleges and universities in Michigan contain some specialized subjects in the sophomore year in engineering and other professions. Thus the student is able to avoid loss of time transfers at the end of one year. The only exception at the present time is the Basic College at Michigan State. This program does not involve specialized subjects in the first two years.

There is a new practice developing in Michigan education in that most engineering courses are developing into five year programs which will permit more general education and less specialized in the first two years.

Second: Michigan Junior Colleges with the exception of Highland Park are not tuition free to residents of the district. Some junior colleges such as Bay City believe that this discourages girls from enrolling in larger numbers. However a comparison between Chart 10E and Chart 10F does not indicate that the percentage of women is higher in say California where tuition is free. Probably a more logical assumption of the effect of tuition is that tuition and a poorly developed terminal education program has resulted in a smaller enrollment of both men and women in Michigan Junior Colleges.

Chart 10F was included here to be used in comparing Michigan Junior Colleges with others of the 4 year type. This chart will be used later in the discussion of finance.

E. Adult Education

S. V. Martorana, assistant director of Research for the American Association of Junior Colleges, sought to determine the present status of adult education. Mr. Martorana(9) sent questionnaries to 648 junior colleges listed in the Junior College Directory of 1947. Replies were received from 337. Those public junior colleges whose enrollments were below 300 were classified as small, and those with enrollments above 300 were classified as large. The private junior colleges were all grouped together regardless of size.

Chart 10F

Classification of College	Number Answering Inquiry	Number with Adult Education Programs	Percentage with Adult Education Programs
Small Public	84	43	51.2
Large Public Excluding Evening Junior Colleges	75	46	61.3
Evening Junior Colleges Only	11	11	100.0

Continued on Page 10K

Chart 10F

Other Junior Colleges: 6-4-4 Plan or 4 Year

Junior College	Organization	Original Plan	Present Plan	Enrollment by Grades 11-12	Enrollment by Grades 13-14	Enrollment Col. Prep.	Enrollment Terminal	Total Enrollment	Tuition	Finance
Carbon College Price, Utah	1939		4	532	227	115	152	267 m--207 w-- 60	res. 61 others 106	SF 35,865 S 74,542 FG 1,548
Compton Junior College Compton, Calif.	1927	6-2-4-2	1932 6-4-4	2290	2839-507	2506	996	3502 m--2778 w-- 724	No Tuition Activity fee $15.00	SF 86,061 L 312,557 S 247,689 FG 280,065 S&S 13,196
Dixie Junior College St.George, Utah	1933		4		226-74	119	236	357 m--268 w-- 89	res. 51 others 55 fees 72	SF 30,000 S 65,601 S&S 200 Aux 750
East Central Junior College Decatur, Miss.	1930		4	79	391-75	482	119	537 m--396 w--141 s-- 71	res.---- out of state 300	SF 72,933 L 31,255 S 24,981
Hardin College Wichita Falls, Texas	1946		4		1627-476	2103	346	2449 m--1682 w-- 767	res. 55 others 150	SF 100,000 L 29,000 S 31,000 S&S 120,000 Aux 60,000
Jefferson City Junior College Jefferson City, Mo.	1926	6-3-2	1939 6-4-4	322	125-50	175	50	225 m--110 w--115	res.---- others 40	
John Tarleton Agricultural College Stephenville, Texas	1926		7-2-4 (10-11-12-13)		1342-303	1356	358	1714 m--1375 w--339 s-- 69	state 50 others 300	SF 212,598 S 269,494 S&S 51,406 Aux 264,714

Chart 10F (Con't.)

Junior College	Organi-zation	Original Plan	Present Plan	Enrollment by Grades 11-12	Enrollment by Grades 13-14	Enrollment Col. Prep.	Enrollment Termi-nal	Total Enrollment	Tuition	Finance	
Meridan Municipal Junior College Meridan, Miss.	1937		6-4-4	608	296-75	371	373	744 m--496 w--248 s--373	res. 50 state 60 others 300	SF S L	9,831 19,264 105,245
Moberly Junior College Moberly, Miss.	1927	7-3-4	1931 6-4-4	237	106-22	84	44	128 m--84 w--44	res.---- others 50	SF S L Aux	7,395 4,000 63,000 1,500
Napa Junior College Napa, Calif.	1941		6-4-4	454	135-84	23	196	219 m--166 w-- 69 s-- 16	None	L S FG	205,000 252,000 23,000
Parsons Junior College Parsons, Kan.	1923	6-3-3-2	1935 6-4-4	390	242-68	126	123	349 m--232 w--117 s-- 39	None	L	86,203
Pasadena City College Pasadena, Calif.	1924	2	1928 6-4-4	2454	2366-959	1158	4631	5789 m--3209 w--2508 s-- 203	None Extended Day Enrollment 2464	SF L S FG	207,040 1,141,120 525,280 220,830
Pearl River Junior College Popularville, Miss.	1923		4	115	181-48			244 m--179 w-- 65 S-- 15	res. 18 state 63 others 318	SF L S S&S Aux	8,000 30,000 20,000 1,500 65,000
Perkinston Junior College Perkinston, Miss.	1926	2	1938 4	102	314-85	407	0 0	415 m--323 w-- 92 s-- 16	res. none state 45 others 300	SF L S FG Aux	57,100 58,600 19,500 90,000 116,515
Vallejo College Vallejo, Calif.	1945		6-4-4	957	388-146	534	1097	1631 m--1583 w-- 48 s--1097	None		
Ventura Junior College Ventura, Calif.	1925		1929 6-4-4			800	200	1000 M--685 w--315	None	S L FG S&S Aux	145,160 654,438 40,445 111,669 13,826

Enrollment Legend
m--men
w--women
s--special

Finance Legend
SF--Student Fees
L--Local Tax
S--State Support
FG--Federal Grant
S&S--Sales & Services
Aux--Auxiliary

C on't. from 10F

All Large Public	86	57	66.3
Total Public	170	100	58.8
Private	167	44	26.3
All Junior Colleges	337	144	42.7

The public Junior Colleges large and small have developed an adult education program. The percentage is larger for the larger colleges 66.3% or 2/3, while the smaller ones the percentage is 51.2 or about 1/2. The private junior college is usually a boarding school and its staff is occupied with supervision in the evening hours. In addition the working relationship between a private junior college is not the equivalent of the relationship of a public junior college. The private junior college feels it is responsible to the parents of the students where ever they reside.

The total enrollments of regular students and adult education students in junior colleges with adult education programs is reported in Chart 10G.

Chart 10G

Enrollment of Regular Students and Adult Education Students in Junior Colleges with Adult Education Programs 9

Classification of College	Enrollment of Regular Students	Enrollment of Adult Education Students	Total Enrollment	Percentage of Adult Education Students
Small Public	6,720	4,496	11,216	40.1
Large Public Excluding evening junior colleges	39,697	32,199	71,869	44.8
Evening junior colleges only	13,352	20,148	33,500	60.1
All Large Public	53,049	52,347	105,396	49.7
Total Public	59,769	56,843	116,612	48.7
Private	12,311	4,931	17,242	28.6
All Junior Colleges	72,080	61,774	133,854	46.2

The general information shown in Charts 10F and 10G is that about half of the junior colleges have adult education programs and that the adult education students enrollment is about half of the total enrollment of adult and regular students.

Adult-Education curriculum offerings (9) by junior colleges is shown in Chart 10H.

Chart 10H
Percentage of Junior Colleges Offering Adult-Education in the Various Areas of Curriculums

Curriculum Area	Public Junior Colleges			Private Junior Colleges	Total of all Junior Colleges
	Small	Large	Total		
Preparatory to Higher Education	46.5	63.2	56.0	36.4	50.0
Non Preparatory	95.4	100.0	98.0	93.2	96.5
a. Vocational	83.7	94.7	90.0	65.9	82.6
b. Commercial	69.8	87.7	80.0	52.3	71.5
c. Technical	48.8	70.2	61.0	25.0	50.0
d. Agricultural	23.3	42.1	34.0	6.8	25.7
e. Cultural and Citizenship	67.4	73.7	71.0	54.6	66.0
f. Homemaking	27.9	57.9	45.0	11.4	34.7
g. Recreational	27.9	50.9	41.0	15.9	33.3

The information in Chart 10H shows that 50% of the junior colleges have an adult education program in the college preparatory curriculum areas. In the non-preparatory curriculum area practically all junior colleges have an adult education program. The vocational or shop area is the greatest with commercial, cultural, technical, homemaking and recreational.

It would be of value to compare Michigan Junior Colleges with junior colleges as a group in the development of Adult Education. This could probably be done best by a visit to these colleges.

Chapter XI

MIDLANDS PROPOSED COMMUNITY COLLEGE

A. Evidence of Need for Education Beyond the Twelfth Grade

Midland is an industrial and agricultural community which is bordered on the north by the vacation land of Michigan and on the south by the indistrial and agricultural areas of the Saginaw valley. The educational needs of the community might be divided into the pre-professional, terminal and adult education ones.

Preprofessional:

In the professional areas we could give preprofessional training in the following ones. This would involve transfer credit courses of one and two year programs. The areas in which there should be sufficient need for the training and in which we should be equipped to make a contribution are:

1. Engineering-Chemical, electrical and mechanical
2. Chemistry
3. Physics
4. Salesmanship
5. Business Administration
6. Nursing
7. Teaching

Terminal or Semi-Professional:

In the terminal or semi-professional area we could give as near complete training as can be given in any class room or laboratory situation. It is understood that experience would be needed to complete the training of these persons in many cases. In other words on-the-job training will always be necessary to some extent because of the specialized nature of the work. The basic information could be given in the community college and in many areas basic skills could be developed in the laboratories and shops of the community college. The following terminal education needs exist in Midland or in the employment area about Midland:

1. Laboratory assistants - Chemical - Physical and Biological
2. Office personnel - Stenographers - Office Machine operators - Secretaries
3. Instrument men
4. Installation and Service Men
5. Machinists
6. Draftsmen and Tracers
7. Electricians
8. Auto Mechanics
9. Hospital Laboratory Assistants
10. Dental and Medical Secretaries
11. Accountants
12. Sales personnel
13. All trades (carpentry - plumbing - masons)

Adult Education:

The Adult Education needs of the community are more difficult to anticipate. The only basis for prediction is the present adult education program and the requests which have been made in the junior college field of instruction. The areas of instruction at present and the anticipated areas are:

1. Carpentry - cabinet making - plumbing - masons
2. Machinists
3. Agriculture
4. Stenography - typing
5. Auto Mechanics
6. Physics and electronics
7. Chemistry - quantative - qualitative and organic
8. College math
9. College English
10. International Relations
11. Psychology - Mental hygiene - Child care
12. Speech
13. Drafting - tracing
14. Blueprint Reading

This list could continue to one of great length. However, it would be pointless since the adult program of education should be determined by the needs of the adults and not what school personnel think they would select as their needs. The above list has been requested several times.

B. Proposed Curriculum

1. General Education:

Probably we would start with some what the Liberal Arts approach to the General Education field for transfer credit purposes and because we have the equipment, facilities and know-how. This would be true of the fields of science, mathematics, social studies and languages. In the field of English we should develop a survey course in written and spoken English. The problem of transfer credit for the survey courses still exists but there are evidences of such courses developing in the colleges and universities to which our students normally transfer. We certainly would be free to introduce such a course as soon as the colleges and universities introduce such courses into their curriculum. As rapidly as educational enertia permits we should consider survey courses in science and social studies. These courses could be made functional by building them around the life needs of the student. The complete development of the general educational area will extend over the entire period of time of existence of a community college. The greatest development should come in the first few years but as new evidence of needs in education of youth is presented, the area of general education may expand or contract. At the present time the area is expanding.

The division of a students time between general education and special or occupational education is shown by a simple diagram devised by Dr. Koos who is a strong advocate of the enlargement of the amount of time devoted to general education. Dr. Koos' line of separation would be A-B-C.

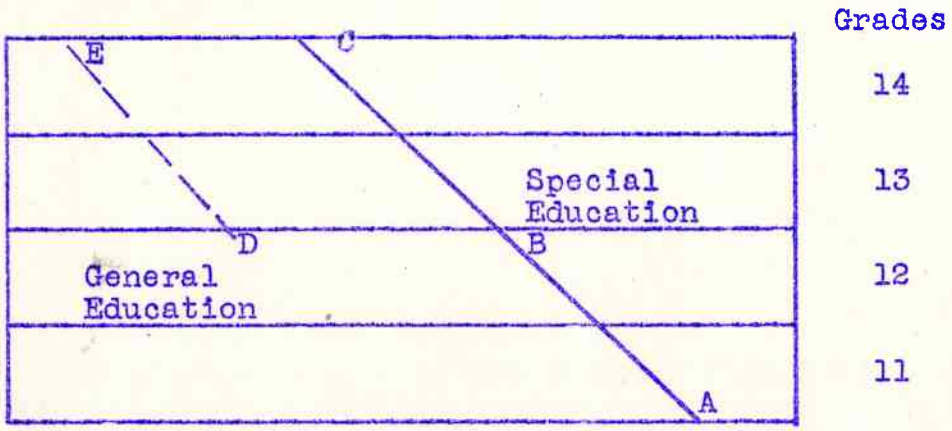


Chart 11A

Some educators might prefer as much general education as Dr. Koos in the 11th and 12th grades but would then make a sharp decrease in general education and a corresponding increase in special education as is shown by line A-B-D-E. The later proposal corresponds quite closely to our proposed program for Midland as shown in chart 11B from "growing schools for a growing Midland".

In the above patterns of special education in Dr. Koos' chart and vocational education in the Midland chart include both the vocational education necessary for the pre-professional and the semi-professional student.

2. Pre-Professional - Terminal and Adult Education:

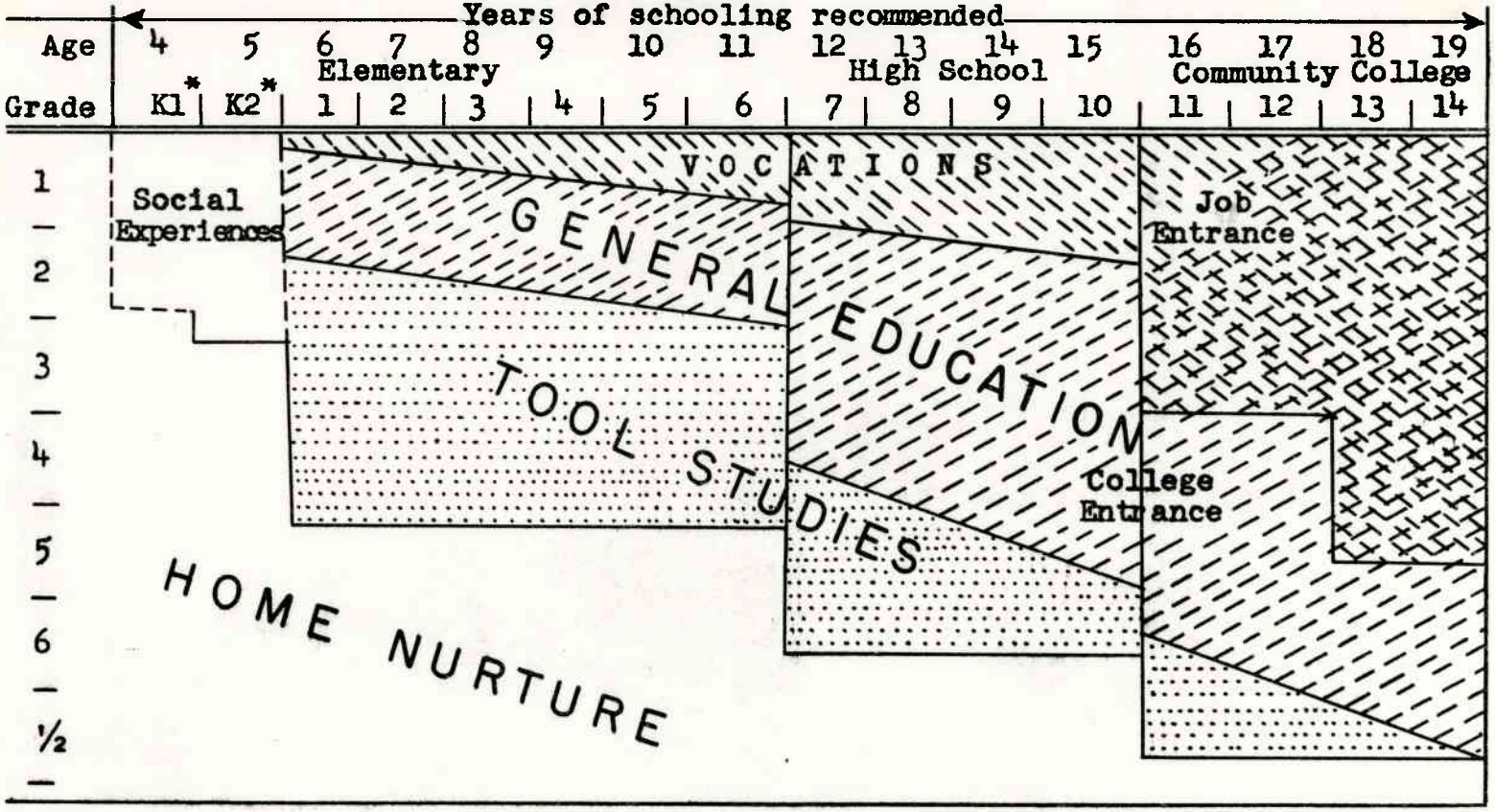
It seems best to treat all of these areas together since a given subject may be pre-professional for one student - terminal for another and adult education for a third student. In fact in some instances it is very difficult from the present needs of the student and the circumstances of employment or probable employment to distinguish in which of the areas the students need really lies. This need can change and the eventual use that is made of the education frequently changes.

The heads of departments of the Midland High School and any other interested faculty members served as a committee to study the junior college from the stand point of professional knowledge. Each department was asked to build up a list of possible courses that they believed they could offer with their present personnel. This list was based upon considerable reading of literature and offerings of junior colleges. The list also recognizes the needs of students who go on to senior college and the lack of complete training of our vocational students. The adult needs of the community are recognized somewhat. Here perhaps is the greatest weakness in the list. The needs of adults as was pointed out earlier may be those listed here to some extent, but they certainly contain many more which only the adults can determine.

Fig. 8

6½ HOURS OF A STUDENT'S DAY

PROPOSED FOR THE MIDLAND PUBLIC SCHOOLS



GRADE LEVEL FUNCTIONS

Orientation — Introduction — Adjustment — Fixation — Exploration — Adaptation — Application

AIMS OF EDUCATION

1. Self-Realization
2. Human Relationships
3. Civic Responsibility
4. Economic Efficiency

*Note: Since the legal starting age is 4½, the committee believes that provision should be made for an additional year for many children before the third grade or a permissible starting age of 4 for all children for a 2-year kindergarten program.

-66A-

In some of the subjects there is some extra curricular value. This is indicated in the list.

For Preprofessional Education typical curriculums may be found in the junior college catalogues.

For Terminal Education typical curriculums may be found in Phoebe Ward Terminal Education in the Junior College - Harper Bros., 1947.
W. C. Eells, Present Status of Junior College Terminal Education, American Association of Junior Colleges, 1941.

Possible Subjects

	Preprofessional	Term. Ed.	Adult Ed.	Extra Curr.
1. Agriculture:				
Advanced Biology	x			
Conservation		x	x	
Animal Husbandry	x	x	x	
Farm Management	x	x	x	
Soils and Field Crops	x	x	x	
Horticulture	x	x	x	
Landscape Design		x	x	
Farm Mechanics		x	x	
Agricultural Math.		x		
Agricultural Economics	x	x	x	
2. Art:				
Show Card and Sign Painting	x	x	x	
Window Display	x	x	x	
Design	x	x		
Handicrafts	x		x	x
Metal				
Jewelry				
Ceramins				
Textiles				
Fine Arts	x	x	x	
Water color				
Oils				
Interior decoration	x	x	x	
History and Appreciation of art	x	x	x	
3. Business Education:				
Basic Business Training		x	x	
Machine Transcription (Dictaphone, Ediphone, Etc.)		x	x	
Technical Dictation		x	x	
Accounting	x	x	x	
Banking and Finance	x	x	x	
Business Law	x	x	x	
Management (Stores, hotels, etc.)	x	x	x	
Insurance	x	x	x	
Merchandising	x	x	x	

	Preprofessional	Term. Ed.	Adult Ed.	Extra Curr.
4. English:				
Composition I	x	x		
Advanced Composition	x	x		
World Literature (up to 1900)	x	x		
Modern World Literature (1900 on)	x	x	x	x
Writing for Publication	x	x	x	
Modern American Literature	x	x	x	
Twentieth Century Poetry	x	x	x	x
Fundamentals of Oral and Written Expression	x	x	x	x
Literary Analysis and Evaluation	x	x	x	
Developmental Reading	x	x	x	
Drama as Literature	x	x	x	
Shakespeare	x	x		
Essay	x	x	x	x
Short Story	x	x	x	x
Novel	x	x	x	x
Creative Writing	x	x	x	x
Folk Literature	x	x	x	x
History of Language	x	x	x	x
Bible as Literature	x	x	x	x
Journalism	x	x	x	x
5. Home Economics				
General Homemaking	x	x	x	x
Family Living	x	x	x	x
Costume Design		x	x	x
Dressmaking	x	x	x	x
Tailoring		x	x	x
Food services	x	x	x	
Dietetics	x	x	x	
Quantity cookery		x	x	
Home Nursing		x	x	
Textiles	x	x	x	x
Millinery		x	x	x
Household Physics		x	x	x
6. Industrial				
A. Machine Shop				
Tool & cutter grinding		x	x	
Bevel & spur gearing		x	x	
Spiral gearing		x	x	
Cutter manufacture		x	x	
Twist Drill manufacture		x	x	
External & Internal Grinding		x	x	
Shop maintenance		x	x	
B. Wood Shop				
Pattern making		x		
Carpentry		x	x	
Adv. Cabinet work		x	x	x

	Preprofessional	Term. Ed.	Adult Ed.	Extra Curr.
C. General Shop				
Auto Mechanics		x	x	
Sheet Metal		x	x	
Air conditioning		x	x	
Household mechanics		x	x	
Farm mechanics		x	x	
Plumbing		x	x	
Masonry		x	x	
Advanced Welding		x	x	
Printing				
Hobby craft			x	x
D. Drafting				
Tool and Die Design		x	x	
Adv. Architectural Drawing	x	x	x	
Adv. Machine and pattern drafting		x	x	
Blueprint reading		x	x	
7. Languages				
French 101-102-201	x	x	x	
French Conversation and composition	x	x	x	
French Literature	x	x	x	
Spanish 101-102-201	x	x	x	
Spanish Conversation and composition	x	x	x	
Spanish Literature	x	x	x	
Latin Reading I-II	x	x	x	
German I-II	x	x	x	
German Conversation and composition	x	x	x	
8. Mathematics				
College Algebra	x	x	x	
Plane Analytical Geometry	x	x	x	
Beginning Calculus	x	x	x	
Mathematics Refresher		x	x	
Vocational Mathematics		x	x	
Consumers Mathematics		x	x	
Surveying	x	x	x	
9. Music				
Applied Music---Piano, Voice, etc.	x	x	x	x
Music Literature and Appreciation	x	x	x	
Ear Training and Music Writing	x	x	x	
Harmony, Arranging, Counterpoint				
Comparative Arts---with emphasis on music	x	x	x	
Classes in Applied Music			x	

	Preprofessional	Term. Ed.	Adult Ed.	Extra Curr.
10. Physical Education				
Adv. Archery	x	x	x	x
Adv. Golf	x	x	x	x
Adv. Tennis	x	x	x	x
Adv. Swimming	x	x	x	x
Adv. Badminton	x	x	x	x
Adv. Volleyball	x	x	x	x
Adv. Bowling	x	x	x	x
Adv. Table Tennis Shuffleboard	x	x	x	x
Corrective P. E.	x	x	x	
Theory Classes				
Dancing - Modern, folk, square	x	x	x	x
11. Science				
A. Chemistry				
Gen. Chem. (Adv.)	x	x	x	
1 Semester Qualitative Analysis	x	x	x	
1 Semester Quantitative Analysis	x	x	x	
1 year Organic Chem.	x	x	x	
B. Physics				
1 year Advanced General Physics	x	x	x	
1 year Physical measurements	x	x	x	
1 year Radio Physics	x	x	x	x
C. Biology				
1 year Advanced Biology (general)	x	x	x	
1 year Biological laboratory course	x	x	x	
Zoology and Botony	x	x	x	
Physiology	x	x	x	
D. Geology	x	x	x	
12. Social Studies				
A. History				
Ancient History	x	x	x	
Modern European	x	x	x	
Latin American				
Contemporary Problems	x	x	x	
Asiatic Development	x		x	
B. Government				
Problems in Democracy	x	x	x	
Formation of Foreign Policy	x	x	x	x
International Governments and relations	x	x	x	x
C. Social Problems				
Family & Community living	x	x		x
Sociology	x	x	x	x
D. Advanced Geography	x	x	x	

	Preprofessional	Term. Ed.	Adult Ed.	Extra Curr.
13. Speech				
Voice and Speech Improvement	x	x	x	
Voice and Diction	x	x	x	
Public Speaking	x	x	x	x
Interpretative Reading	x	x	x	x
Debate	x	x		x
Public Discussion	x	x	x	
Play Direction	x	x	x	
Play Production	x	x	x	x
Radio Speech	x	x	x	
Comparative Drama	x	x	x	
Parliamentary Procedure	x	x	x	x

In the preprofessional or terminal area the curriculum should be developed by a committee of teachers and prospective employers. Fortunately many of our instructors have had business or industrial experience in the area in which they will be teaching. However, we would not depend upon those teachers alone to develop the curriculum. These teachers and the employers should develop the curriculum of a given area and should serve as steering committee to continue to revise the curriculum as often as is necessary.

In the Adult Education field probably we could list proposed adult courses and then invite suggestions from those interested and form new courses around these suggestions. The above list is not a curriculum but a list of subjects. To propose exact curriculum at this time might not be wise. We should recognize the known need at this time, as was done earlier, and then have the faculty members, who are continuing the study of the community college, work out the possible beginning curriculum. These beginning curriculum should be prepared with the full knowledge of the needs of transfer students in the preprofessional areas and of terminal students in the semiprofessional areas.

For the preprofessional areas a careful study of the present programs of the Michigan Junior Colleges together with the information that could be obtained from colleges and universities of Michigan on the needs of transfer students should be sufficient information to prepare these curriculum.

C. Extra Curriculum

Midland High School has a well developed extra curriculum program as described in Chapter VI. In a four year community college the clubs and other organizations outside of the regular 11th, 12th, 13th and 14th grade organizations should be so developed that students from any grade may become a member. Students would be encouraged to maintain membership in organization over the four year span as much as possible. No doubt new clubs would be formed and some of the present ones dropped which did not fit the interests of students who would be, on the average, two years older.

All of our music groups have some membership from all four grades at present (9-10-11-12). These organizations would continue to have membership from four years (11-12-13-14). The athletic program which has been a troublesome part of some community college programs probably would not present a serious problem. We are rapidly working toward an arrangement where by the high school varsity team will be composed mostly of juniors and seniors. This becomes necessary as the number of boys desiring to compete becomes greater. To provide for participation of more boys, teams are organized at the 9th and 10th grade level.

The 11th and 12th grade team would continue to represent Midland in high school competition while the 13th and 14th grade teams would represent us in junior college competition. Very few community colleges have been able to compete as varsity teams composed of team members from all four junior college years. Some tried at the beginning but have changed to a high school and a junior college team.

D. Staff

As was pointed out in Chapter VI, of the present staff more than half have masters degrees. There are several others working on advance degrees. It would appear that if we hired only those with masters for replacement and new positions we could easily reach a situation where 75% of the faculty had masters degrees in five years. Many of our teachers are recognized as outstanding in their respective fields.

Since many of the staff members would be teaching at both high school and junior college level, the quality of instruction should improve at the high school level.

In junior college education, a better quality and a greater quantity of work is expected than at the high school level. With teachers working at both levels a suitable load relationship between high school classes and junior college classes could be worked out. The usual high school load is 25 hours of classroom work per week, and the usual college load is 15 hours of classroom work per week. Thus, the junior college teacher should have 3/5 as many classes as the high school one. The problem can be worked out for teachers at both levels using the 3/5 ratio. Thus, a teacher could supposedly have two high school classes and two college classes and would have a full load. This would be true since the two college classes would equal 5/3 as many high school classes or 3 1/3 high school classes. This teacher would have the equivalent of 5 high school classes.

E. Administration

A single administrative head who is responsible to the superintendent of schools represents the best administrative procedure. The administrator has charge of the entire four grade unit. His assistants also are appointed to all four grades.

The title of the administrator probably is of little concern so long as the organization is proper. At Pasadena the superintendent of schools is recognized as the superintendent of Pasadena City College and direct administrative officer in charge is known as the principal. Dr. Koos (11) found that of 51 administrators in direct charge 24 were known as dean, 10 as president, 3 as director, 9 as principal, 5 as dean and principal. In most four year units, the administrative officer is known as the principal. The title of principal lends itself to the thinking that the four year unit is an upward extension of the high school.

The other administrative officers should be the dean of girls and a dean of men which could be separate or combined with the assistant principalship and a director of guidance and placement. We have all of these personnel at the present time.

F. Area Serviced

If we refer to Map I, page 3D, Midland is to be surrounded by colleges and junior colleges. Bay City has a junior college of the association type which is developing into a community college. Saginaw is considering a junior college or community college. Mount Pleasant has Central Michigan College of Education. All of these colleges are 20 to 28 miles from Midland. However, we would probably not find students enrolling from areas in the direction of these towns beyond the area now served by the Midland High School except in those cases where we might develop terminal curriculum that are needed for employment in Midland and are not developed by the junior colleges or college surrounding us.

To the north of Midland are small high schools of Coleman, Clare, Beaverton, and Gladwin. The total graduating class of these schools would be between 100 and 150 students. Not many of these students would transfer to Midland for the 13th and 14th years. Some probably would because they would be looking toward Midland for employment and would take the terminal courses of the last two years.

For the most part we must plan on a community college that serves the present area served by the high school. This area contains between 25,000 and 35,000 people. Using the proportion of resident and non-resident students in high school and comparing Midland city population with the population outside the city, but serviced by Midland High School, we have an estimate for the area outside the city of 17,000. The city population is 15,000. This gives a total population of 32,000 for the area serviced by Midland High School.

G. Possible Community College Enrollment

Referring to tables in Chapter IX, part D showing the enrollment of the 11th and 12th grades and the 13th and 14th grades for four year junior colleges (8) we have the following information shown in Chart 11C.

Chart 11C

1948 Enrollments

Junior College	Organization Date	Enrollment Grades 11 & 12	Enrollment Grade 13	Enrollment Grade 14
Napa	1941	454	135	84
Parsons	1935	390	242	68
Pearl River	1923	115	181	48
Jefferson City	1939	322	125	50
Meridan	1937	608	296	75
Moberly	1931	237	106	22
Vallejo	1945	957	388	146
Totals		3083	1486	506
Percentage	13 or 14 is of (11 & 12)		48.2	17.4

Junior colleges such as Compton and Pasadena were left out because of their large transfer enrollment from other high schools at the beginning of the 13th grade. There are some transfer students in the above figures. The exact number is not known. The chart shows that for these schools the enrollment in the 13th grade is 48.2% of the enrollment of the 11th and 12th grade combined and that the enrollment of the 14th grade would be at 17.4% of the enrollment of the 11th and 12th grade combined.

In 1953 we will have an enrollment of about 900 in grades 11 and 12. If we were to apply these percentages to our enrollment we could expect:

Enrollment --	11th & 12th grade	13th grade	14th grade	Total
	900	432	153	585

Another study reported by W. C. Eells shows that the enrollment in the freshman year would be 11% of the enrollment of grades 9 through 12. In 1953 we will have 1927 students enrolled in grades 9 through 12. If we use Mr. Eells (3) figure of 11%, which is a figure for the enrollment of all high school and all junior college freshmen for the state of California for 1938-39 school year, we would have an expected enrollment of 212 13th graders. Mr. Eells shows in the same reference that about 60% of the junior college freshmen students remain for the sophomore year. This would give a sophomore year enrollment of 127, or a total enrollment of 339. Possibly neither of these figures are accurate. Since the junior college information of Chart 11C is for colleges of established programs with 3 to 25 years of experience. With this in mind probably we should view the first set of figures as maximum enrollments where terminal education programs are well developed.

Even the second set of figures appear rather optomistic to me. Since we will not have established our transfer status for two or more years and since our terminal education program will not be well developed, I have estimated the first years enrollment at 30% of the senior class enrollment with a 50% retention for the sophomore year. The senior class of 1953 will number about 400. This would give a freshman class of 133 and a sophomore class, the second year, of 67, a total enrollment for the second year of 200.

There are many outside forces which can affect enrollment. A period of slow employment would undoubtedly increase this figure. A period of good employment or a war condition would decrease the figure sharply.

H. Guiding Principles for Organization of Junior Colleges[5]

The American Association of Junior Colleges at their national convention in St. Louis in 1947 adopted the following general principles to be used as a guide for the establishment of community colleges or enabling legislation which will favor their development.

1. There must be clearly recognized by the state the potentialities of Junior College Education.

   a. A Junior College should offer college preparatory work parallel to the college or university courses, and in addition, terminal courses should be developed in response to the needs of the community.

   b. An adult-education program also in response to the needs of the community should be developed by the Junior College.

2. A survey of the state in reference to the need for junior colleges is recommended as a necessary pre-legislative step.

3. School population is a necessary consideration. It is suggested in most cases that a secondary school enrollment of 1000 be considered a minimum. A junior college with an enrollment of 200 or less cannot be operated economically or effectively as a separate unit. It should be integrated with 11th and 12th grades.

4. It must be ascertained whether there is enough taxable assessed valuation within a district to support a junior college. There should be a sufficient assessed valuation to provide the capital outlay, which would include buildings and equipment, and a sufficient amount of valuation per A.D.A. in combination of local and state sources, to carry an adequate program. There should be available from local and state sources or both a minimum of at least $200 per student per year for operating expenses.

5. Petition for a junior college should come from the voting citizens of the district in which the junior college is to be organized.

6. It is a strong recommendation that the public junior college be tuition free.

Chapter XII

PLANT

A. Choice of Plans

There are two possible building programs that might be considered for Midland Public Schools in the secondary level.

Plan A: 1. Build a new building to house the four year community college on the new 60 acre site.

2. Convert the present high school to a Southwest Intermediate High School.

3. Convert the present Southwest Intermediate High School into central offices, storage and service area.

Plan B: 1. Build a new building to house grades 10, 11 and 12 on the new 60 acre site.

2. Same as above.

3. Same as above.

The only difference in the two plans is whether the new building will be planned to house a community college. It is doubtful whether the enrollment of grades 13 and 14 would ever exceed ¼ of the enrollment of grades 10, 11 and 12. In those schools such as Pasadena and Compton where the junior college enrollment exceeds the high school enrollment much of the junior college enrollment is in the extended day. Thus the same facilities could be used by groups of students in one day. On this basis the space devoted to junior college (13 and 14th grades) would not be more than a fourth of that needed for high school. A closer look reveals that this is true only of classrooms. It is partially true of shops and probably not true for the laboratories, library and gym, since these facilities would be used by both 11th and 12th grades and 13th and 14th grades during the regular day. If this is the case it would be safe to say that the cost of the building would be probably not more than 20% higher as a community college than as a 10, 11 and 12 grade high school. This added capital outlay does not appear to be prohibitive when you consider that without it the terminal program is not available in Midland and that students from outside with such terminal programs will be employed in the semi-professional jobs in Midland. A second consideration is that with the community college many students will get two years preprofessional training at home. They will then continue on in four-year colleges in most instances. This is of great importance to many students of the lower income group. It would be invaluable to many wanting to prepare themselves as teachers.

B. Community College Plant

The exact plan of the plant can not be given now, however, certain features can be discussed which would be necessary.

1. Library:

The library is the heart of a junior college. For this reason it should be located in the center of the building. Since the library will be open in the evening there should be access to it with the major portion of the building screened off on those nights when adult classes do not meet. Many of the library books can be used by both high school and junior college students. The reading room should be 1/3 larger than for the high school use since many junior colleges students will study there.

2. Shops:

The shops should provide for auto mechanics, aircraft, machine shop, wood working, welding, farm mechanics, drafting and printing. The welding and farm mechanics shop would have such features that the two could be combined. The shop should be in such a position that there is an adjacent outside area where equipment may be parked while it is waiting to be repaired or while it is waiting transportation home. It also means a large shop door.

3. Laboratories:

There should be a physics and chemistry laboratory plan similar to the present high school plan. In fact most of the equipment and furniture of the present high school could be moved to the new plant. There should be classrooms and laboratories especially designed for biology and geology.

The home making laboratories should be designed for the age group they are to serve including the adult group. The food services program which is also a part of the present high school program will need some consideration in the plans. The agricultural laboratory will need special provision for their needs such as soil testing, milk testing, etc.

Counseling, guidance and placement should have suitable rooms. In the present high school we have taken rooms intended for health service. In any new building both counseling and health service should have suitable rooms.

4. Physical Education:

Close cooperation with the community center should make possible the combined use of facilities of the community college, Community center and Southwest Junior High School. It would appear that a pool in the community center would be the most advisable so that it could be used by all three. The junior high and community college could use the pool in the day time and the community center at night. The community center site for their new building is located near school # 3 as shown on Map 2 on page 4D.

Then it would appear advisable for the community college to plan for a large gymnasium with a seating capacity of 2,500 to 3,000. The seating capacity probably should always be 1.5 times the student enrollment. In the near future the student enrollment will reach 2,000. Other facilities should, of course, be suitable locker and shower rooms. There should be provision for drying rooms and storage rooms for athletic equipment.

5. Classrooms:

There should finally be classrooms for 2,000 students which would require 80 classrooms. However, classrooms can be added as they are needed. Some of these other features must be built for 2,000 enrollment in the beginning.

6. Cafeteria:

Such a building should have a cafeteria that would seat 1,000 students at one time. Then by a short double noon hour all could be served. The faculty should have a separate lunch room.

7. Auditorium:

The question of an auditorium is a debatable one. It is true that the present high school has a fine auditorium which is well equipped. It is also true that the present high school auditorium is too small for many civic and many school activities including graduation. A new auditorium should have a seating capacity double the present one or 2,500 to 3,000 people. Such a building is expensive. One possible solution is to construct the community college so that the auditorium could be added later as was done with the present high school. The auditorium should be in the center of the building because of traffic. These features that have been described are the ones that are evident at the present time. As the program of the community college is studied further these plans will be altered considerably.

Chapter XIII

FINANCE

A. Present cost of education in college for Midland students.

At present Midland students are spending from $700 to $1,100 per year for their college education. Of this amount $550 is for room and board as a minimum. About $135 per year as an average for tuition. If the student lived at home the room part of board and room could be saved which would be $175 to $200. The tuition could be saved $135 in a resident tuition-free institution. A portion of the board could be saved in that the student living at home does not pay for the preparation of food possibly $75. This would result in a total saving of:

Tuition	$135
Room	175
Board	75
Laundry	25
Total Saving	$410

For convenience lets say $400 since the figures used above are not exact.

Then let us say that we have a starting enrollment (2nd year) of 200 students in 13th and 14th grades in Community College and that as we develop our terminal education program and our 11th and 12th enrollment increases we increase our Community College enrollment of 13th and 14th grades by 25 each year. We could keep in the Midland community for education here the following amounts of money each year over the next ten years.

Chart 13A

Additional Cost of Educating Midland College Students Outside of Midland

Year	Enrollment in Grades 13 & 14	Average Saving Per Student	Total saving that formerly was spent outside of Midland but could be spent inside of Midland
1953	200	400	$ 80,000
1954	225	400	90,000
1955	250	400	100,000
1956	275	400	110,000
1957	300	400	120,000
1958	325	400	130,000
1959	350	400	140,000
1960	375	400	150,000
1961	400	400	160,000
1962	425	400	170,000
			$1,250,000

Some will say that these additional 25 students each year are partly terminal students who would not have gone to college had the community college not been in Midland. This is true. But you as a taxpayer are spending the money for education. Which would you rather do, spend the money at home and make education available to more students or spend the money away from home.

This may be a homely illustration but is similar to buying an automatic laundry and dish washer to being able to reduce a full time maid expense to a part time maid. The part time maid can now be of service to two or three families and the total cost to you is probably less.

B. How Are Community Colleges Financed?

Finance can be divided into two parts (a) capital outlay (b) operational expense.

1. Capital outlay: The capital outlay probably would be financed the same as any other building program for public schools by a bond issue. This probably would not be prohibitive as was pointed out in Chapter XII because the junior college enrollment would probably not exceed 1/4 of the high school enrollment for several years. Thus the additional capital outlay would not be beyond reason.

2. Operating Costs: To determine per capita operating costs a study was made of the cost of operation for 1947-48 school year of a representative group of Junior Colleges (8) in California, Mississippi, Missouri, Utah and Michigan. This information is shown in Chart 13B. The costs range from a low of $118 at Meridian, Mississippi to a high of $590 at Moberly, Missouri. The average per capita cost for California is $311. These schools on an average have 59.0% terminal students. The average per capita cost for the states of Texas, Mississippi, Missouri, and Utah is $304. The terminal students make up 25.4% of the enrollment. The average per capita cost for the state of Michigan is $169. Terminal students make up only 15.1% of the students. All of the schools outside of Michigan are 4 year units grades (11-12-13-14).

Only general conclusions can be deduced from these figures. First, as the percent of terminal students increase the cost per capita increases. This is to be expected because the number of students per teacher is larger for the college preparatory program than the terminal one. You can teach 35 students in a social science class but only 20 to 25 in welding. Notice the cost at Muskegon where the terminal program is not offered. Michigan shows a very conservative average operating cost but is not providing for the needs of the large majority of her young people as is shown by the low percentage in terminal programs. Second, the operating cost is greater for a junior

Chart 13B

Per Capita Cost of Operation for 1947-48 School Year (8)

College	Enrollment College Prep.	Terminal	%	Total Enrollment	Total Operating Costs	Cost Per Student
Compton, Calif.	2506	996	28.4	3502	1,139,568	$323.00
Napa, Calif.	23	196	89.5	219	480,000	219.00
Pasadena, Calif.	1158	4431	74.7	5789	2,094,270	361.90
		Ave.	59.0		Ave.	$311.00
Meridan, Miss.	371	373	50.2	744	134,340	118.00
Moberly, Mo.	84	44	34.4	128	75,895	590.00
Dixie St. Geoge, Utah	119	236	66.0	357	96,551	270.00
Decatur, Miss.	482	119	22.1	537	129,169	240.00
Wichita Falls, Texas	2103	346	14.1	2449	342,600	140.00
Stephenville, Texas	1356	358	20.8	1714	801,252	467.00
		Ave.	25.4		Ave.	$304.00
Benton Harbor	64	12	15.8	76	21,272	289.00
Dearborn	354	95	26.8	449	105,000	234.00
Flint	885	57	6.0	942	173,765	183.00
Gogebic	328	93	28.3	421	74,000	176.00
Grand Rapids	1595	407	21.2	1912	317,093	165.80
Jackson	533	127	17.5	727	118,848	162.00
Muskegon	599	0	0.0	599	78,000	130.00
Port Huron	476	65	12.0	541	115,569	213.50
		Ave.	15.1		Ave.	$198.20

college that has a small enrollment. This is true of Benton Harbor. A further comment is that Benton Harbor had been operating only two years when these figures were determined. In the next five years the enrollment will rise and the cost will decrease.

3. Sources of Income for Operation (8): To determine sources of income for operation a chart was prepared of the junior colleges shown in Chart 13B with the sources of income and the percent of income from each source. This is shown in Chart 13C. Only generalizations can be made from this chart.

First, Michigan junior colleges depend upon student fees or tuition for more than half of their support. California and other states depend very little upon student fees. California does not have a tuition but Compton and Pasadena reported student activity fees. If we turn to Chart 13B and note the percent of terminal students in California as compared to Michigan we can see what tuition does to the enrollment of student from the lower socioeconomic group.

In general, for all junior colleges, when tuition is not charged the enrollment rises to 1/3 of the enrollment of grades 9 through 12. When tuition is charged the enrollment drops to 1/7 of the enrollment of the 9th through the 12th grade. This is a strong point in favor of a tuition-free institution for resident students.

Second, local support is nearly twice as much in California as Michigan and about three times as much in Mississippi and Missouri as in Michigan.

Third, California junior colleges are receiving much greater support from the government for their vocational programs than most other schools except Flint. Supposedly the vocational funds can be used for instruction which is of less than college grade work. Flint's percent of terminal students is only 6% but the federal support is 60%. Michigan junior colleges are losing federal support in most instances because they are not organized as four year units of grades 11-12-13-14.

Sales and Services and Auxiliary accounts are sources of income from college store and other enterprises operated for the benefit of the students.

The Auxiliary account at Port Huron is large enough that it should be studied further to see how an income of 23.5% can be derived from such a source.

This discussion of finance is not complete but basic difference in financing junior colleges has been given. Before a junior college is approved, the subject of finance should be very carefully studied.

Junior College	Local Support	%	State Support	%	Student Fees	%	Sales & Services	%	Aux-illary	%	Federal Grant	%	Total Operating Expenses
Bay City, Mich.	38,491	21.1	20,886	11.4	84,384	46.3	24,600	13.4	14,054	7.7			182,415
Benton Harbor, Mich.	10,500	49.6	772	3.6	10,000	48.3							21,272
Dearborn, Mich.	24,000	22.8	12,000	11.4	67,000	53.7	4,000	3.8			1,000	.95	105,000
Flint, Mich.			7,865	4.5	57,648	33.2					108,282	62.7	173,765
Gogebic Iron-wood, Mich.	4,000	5.4	10,000	13.5	60,000	81.0							74,000
Grand Rapids, Mich.	57,593	18.1	33,210	10.5	226,290	71.4							317,093
Jackson, Mich.	60,446	51.0	13,935	7.4	44,467	37.6							118,848
Muskegon, Mich.					70,000	90.0			3,000	3.8	5,000	6.2	78,000
Port Huron, Mich.	19,298	11.6	15,464	13.3	53,703	48.4			27,100	23.5			115,569
	Ave.	25.7		9.4		56.6		8.6		11.6			
Compton, Calif.	312,557	27.4	247,689	21.7	86,061	7.55	13,196	1.1			280,065	24.6	1,139,568
Napa, Calif.	205,000	43.1	252,000	52.5							23,000	4.8	480,000
Pasadena, Calif.	1,141,120	54.7	525,280	25.1	207,040	10.4					220,830	10.5	2,094,270
Ventura, Calif.	654,438	67.8	145,160	15.0			111,669	11.6	13,826	1.4			965,093
	Ave.	48.2		28.3								13.3	
Meridian, Miss.	105,245	78.6	19,264	14.3	9,831	7.3							134,340
Moberly, Mo.	63,000	83.0	4,000	5.3	7,395	9.7			1,500	2.0			75,895

Chart 130

Junior College	Local Support	%	State Support	%	Student Fees	%	Sales & Services	%	Aux-illary	%	Federal Grant	%	Total Operating Expenses
Bay City, Mich.	38,491	21.1	20,886	11.4	84,384	46.3	24,600	13.4	14,054	7.7			182,415
Benton Harbor, Mich.	10,500	49.6	772	3.6	10,000	48.3							21,272
Dearborn, Mich.	24,000	22.8	12,000	11.4	67,000	53.7	4,000	3.8			1,000	.95	105,000
Flint, Mich.			7,865	4.5	57,648	33.2					108,282	62.7	173,765
Gogebic Iron-wood, Mich.	4,000	5.4	10,000	13.5	60,000	81.0							74,000
Grand Rapids, Mich.	57,593	18.1	33,210	10.5	226,290	71.4							317,093
Jackson, Mich.	60,446	51.0	13,935	7.4	44,467	37.6							118,848
Muskegon, Mich.					70,000	90.0			3,000	3.8	5,000	6.2	78,000
Port Huron, Mich.	19,298	11.6	15,464	13.3	53,703	48.4			27,100	23.5			115,569
	Ave.	25.7		9.4		56.6		8.6		11.6			
Compton, Calif.	312,557	27.4	247,689	21.7	86,061	7.55	13,196	1.1			280,065	24.6	1,139,568
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	Ave.	48.2		28.3								13.3	
Meridian, Miss.	105,245	78.6	19,264	14.3	9,831	7.3							134,340
Moberly, Mo.	63,000	83.0	4,000	5.3	7,395	9.7			1,500	2.0			75,895

Chart 13C

Chapter XIV

EVALUATION

A. Data Used

Most of the material presented is as accurate as could be determined. The employment in the Midland area has been checked to make sure the figures were accurate. The population for Midland was checked against 1950 census figures. The projected enrollment for the intermediate and senior high school years was checked for accuracy of the past several years. The information on junior colleges was taken from books published by the American Association of Junior Colleges. The only material that possibly could be questioned for its accuracy is that in Chart 13A, and here it has the support of the Pasadena City College officials. They believe that by having the junior college in Pasadena, $400 per student can be spent in Pasadena which would ordinarily be spent elsewhere in college education.

Much of the material included could have been omitted if one were interested only in the proposed community college for Midland, however, many Midlanders will be studying the community college during the next year and Chapters V, VIII and IX were included to save these persons valuable time in background information on the functions of each of the four year units in the 6-4-4 plan.

Much of this paper is not well written, but an attempt was made to not use so much of the educators jargon that laypersons would not find it readable and besides I do not always understand the other terms myself.

B. Conclusions:

My own personal conclusion is that the Midland Community has need for a community college of the 6-4-4 type. Midland can afford this education for her young people.

Since I am not the one to decide the most appropriate procedure is for the lay and professional persons who are interested in a community college to become well enough informed in the need for the functions of and the cost of a community college so that they are willing to work toward that end through the usual democratic procedures. With this in mind I hope this paper will serve a useful purpose.

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